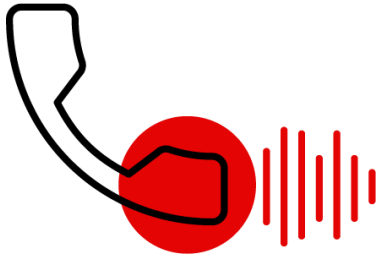
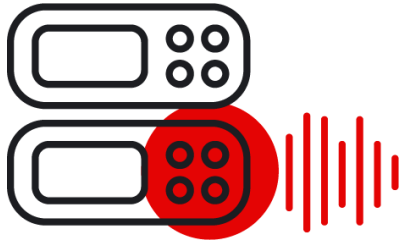
Audio
Video
Technologies





MAGIC THipPro (Pure) Lite

Configuration Guide

Version: 3.810 (09. January 2023)

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Content

Additional Documents

- Get further information in the following documents which are available in the Download section of our website at www.avt-nbg.de.
- Quick Guides:
  - Audio over IP (AES67-DANTE-RAVENNA-LIVEWIRE)
  - Signalling and Control with DHD SetLogic
  - Signalling and Control with Ember+
  - Ember+ Consumer Extension
  - MAGIC PhonerSet Provisioning Guide
  - SQL Server 2012 Installation
- Documentations:
  - MAGIC PhonerSet
  - MAGIC THipPro Hardware

MAGIC THipPro Lite

Overview

- Hardware
- Basic Features
- Optional Features
- Accessories

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Hardware – Front

- Five Status LEDs
  - POWER
  - SYNC (On while booting)
  - ALARM (Indicating hardware problems)
  - INFO 1, INFO 2 (Not in use)

- Two RJ10 Handset/Headset interfaces for PRETALK (Not available for MAGIC THipPro Pure Lite).
- Illuminated graphic display with 160 x 32 pixels & front keypad.
  - For basic settings and status display only.

THipPro Lite Hardware – Rear

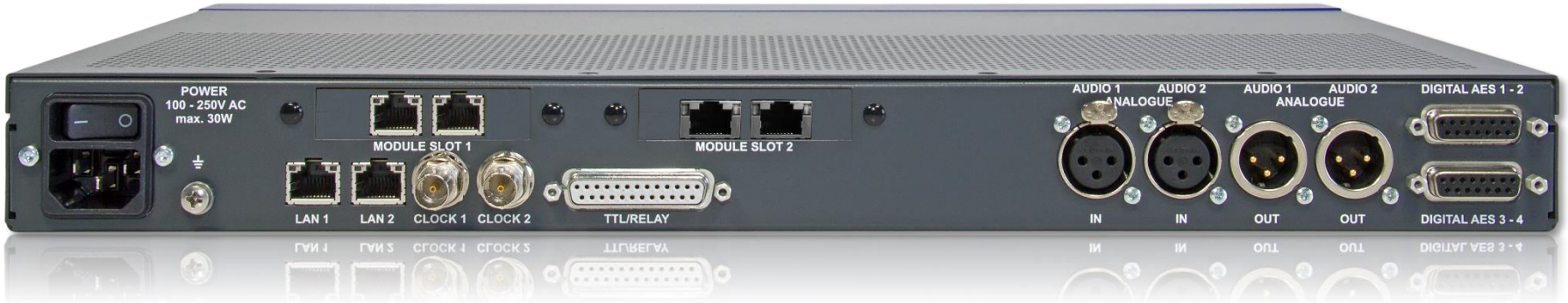
- Two independent LAN interfaces
  - Up to three VLANs per LAN interface
- Word clock input/output
- 2 x analogue mono audio in-/outputs
  - 2 x XLR male/female each
- 2 x AES3/EBU stereo audio in-/outputs (Digital AES 1 – 2)
  - 4 digital audio lines (Sub-D 15-pole with adaptors to XLR male/female)
- 2 x AES3/EBU stereo audio in-/outputs (Digital AES 3 -4, licence required)
  - 4 digital audio lines (Sub-D 15-pole with adaptors to XLR male/female)
- Optional socket for redundant power supply.
- Programmable GPIO interface
  - 8 TTL in-/output
  - 8 relays (NO)
- 2 x slots for extension modules

THipPro Pure Lite Hardware – Rear

- Two independent LAN interfaces
  - Up to three VLANs per LAN interface
- Word clock input/output
- Programmable GPIO interface
  - 8 TTL in-/output
  - 8 relays (4 x NO, 4 x NC)
- 2 x slots for extension modules

- Optional socket for redundant power supply.
- No physical audio interfaces.
  - The configuration described in this manual refers to the MAGIC THipPro Lite with physical audio interfaces, but also applies to the MAGIC THipPro Pure Lite. Any reference to the physical audio interfaces should be ignored when configuring a MAGIC THipPro Pure Lite.

Hardware – Module slots 1 and 2



- POTS
  - 2 x POTS modules for 8 caller lines
- DANTE
  - 32 channels in/out
  - 2 Ethernet interfaces
  - Only for VoIP systems
  - The standard Audio interfaces can still be used
- RAVENNA
  - 32 channels in/out
  - 2 Ethernet interfaces
  - Only for VoIP systems
  - The standard Audio interfaces can still be used
- LAN 3/4 Module
  - Two additional 10/100 Mbit/s Ethernet interfaces

Basic Features (1)

- Housing 19” x 1 U
  - Leave 1U space above the unit for cooling.
- No fan for noiseless operation
- Low power consumption of typically 15W
- 12 Audio lines (THipPro Lite only)
  - 2 x analogue in-/outputs
  - 2 x digital in-/outputs included (2 x AES)
  - 2 x digital in-/outputs optional (2 x AES)
  - 2 x handsets/headsets

- Digital signal processing for each channel
  - Echo Canceller with up to 120 ms echo tail time
  - AGC Automatic Gain Control
  - Expander for noise reduction
  - Voice Disguise (VD) function
- Conferencing for PRETALK and ON AIR

Basic Features (2)

- Up to 2 internal recorded HOLD signals with up to 16 seconds each
- Use up to 2 audio channels as external HOLD inputs
- Programmable GPIOs for controlling a mixing console and for external signalling
- DHD SetLogic Support
  - 96 GPIOs, each configurable as input or output
  - Predefined GPIOs for a dialling keypad
- Ember+ Provider Support
  - Connect up to 6 Ember+ Consumers
  - 96 GPIO inputs
  - 96 GPIO outputs
  - Predefined GPIOs for 1 dialling keypad
  - Caller number, caller name, Functions
- Ember+ Consumer Support
  - Connect to up to 2 Ember+ Providers
  - 20 function slots per Ember+ Consumer
  - For screening information, Numbers to dial, …
- DTMF generator for transmission of DTMF tones
- Integrated SIP Monitor and Logging
- Audio test panel with signal generator
- MAGIC THipPro Lite Software
  - Touch optimized Windows PC software for
    - Call control
    - Maintenance
    - Configuration
  - Single user licence
  - Up to 8 clients per unit (1 licence included)
- MS Access database for phone book and call history.

Optional Features (1)

- VoIP + HD-Voice Option
  - For 4 or 8 channels
  - HD -Voice (G.722)
    - High quality speech codec in VoIP operating mode
    - Doubling the audio bandwidth compared to the standard ISDN codec.
    - Automatic selection of the best codec for VoIP calls.
- POTS Option
  - Up to 2 hardware modules with 4 channels each
  - Up to 8 POTS channels per unit
- 8 x FXO Ports VoIP/POTS Gateway
  - 8 POTS channels per unit.
  - Connects to the THipPro via predefined VoIP accounts.
- MAGIC THipPro Full Upgrade
  - Including SQL Database and Digital Audio
  - Available for THipPro Lite with 8 VoIP or 8 POTS lines
  - THipPro Lite-specific options are not transferred.
- Pretalk Streaming via IP
  - Stream pretalk audio signals between up to 6 PCs and the THipPro.
  - Use any audio interface of the PC (e.g., a USB headset)
  - Supports convenient recording at the PC.
  - Single licence per Pretalk Stream

Optional Features (2)

- AES67
  - Audio over IP networking software upgrade.
  - Output: 8 audio channels (1 stream).
  - Input: 8 audio channels (2 streams).
  - Announcement and auto discovery of streams.
  - SDP stream description import and export
  - Limited to Ethernet interfaces 1 and 2.
- LAN3/4 Module
  - Hardware upgrade adding 2 Ethernet interfaces.
  - Not available if a POTS module is installed.
  - Supports all protocols except AES67.
- Dante Module
  - Audio over IP networking hardware upgrade.
  - 32x32 audio channels.
  - Supports AES67 for interconnection with Ravenna, Livewire+, etc.
  - 2 Ethernet interfaces to support redundancy
- Ravenna Module
  - Audio over IP networking hardware upgrade.
  - 32x32 audio channels.
  - Supports AES67 for interconnection with Dante, Livewire+, etc.
  - 2 Ethernet interfaces to support redundancy
- Redundant Power Supply
  - Additional socket for an external power adapter.
  - Power adapter included.

Optional Features (3)

- Ember+ Consumer Extension
  - Connect up to 6 third party workplaces using only Ember+ and DHD SetLogic.
  - Full call control and display of caller information and audio level.
  - Single licence per workplace.
- Ember+ Dial Pad Extension
  - Up to 6 pre-configured Ember+ Dial Pad GPIOs in the Ember+ tree of the built-in provider.
- DTMF Analyser
  - Game Show and Event Mode

- MAGIC System Manager
  - Access the MAGIC THipPro Lite from AVT's central management software which supports all AVT telephone hybrids and audio codecs.
  - Comfortable overview of system health, full configuration and Preset management.
  - Windows PC software
- PhonerSet
  - Control up to eight lines via a touchscreen-equipped Grandstream Android phone.
  - Use the phone's handset for Pretalk.
  - Connect up to 8 PhonerSets.
  - Single licence per PhonerSet.
- SQL Upgrade
  - For phone book and call history.
  - Share the phone book with other AVT telephone hybrids.

Accessories

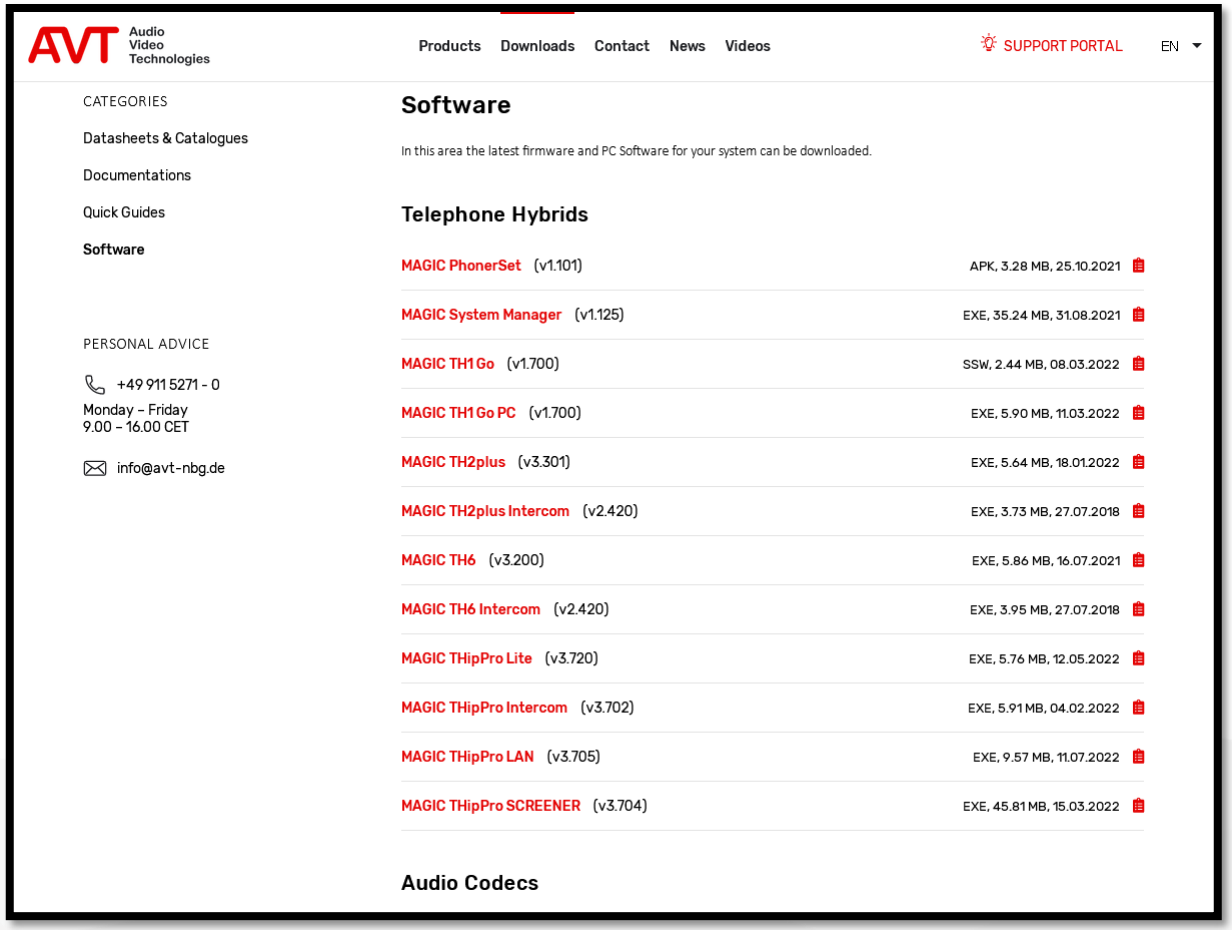
- MAGIC PhonerSet
- MAGIC THipPro Lite Handset
- MAGIC THipPro Lite Headset
- USB Headset
  - For Pretalk Audio Streaming
- USB Handset
  - For Pretalk Audio Streaming

PC Software

- MAGIC THipPro Lite
  - Touch optimised Windows PC software
  - Single-user licence
  - Supporting window sizes between 900 x 280 px and 8000 x 6000 px.
  - Automatic scaling for high-DPI screens.
  - Up to 8 clients can access the system simultaneously.
  - Optional MS SQL Server backend database
  - Each client has direct access to the MAGIC THipPro Lite unit.

Resources

- The AVT MAGIC THipPro Lite unit comes with a USB Flash Drive including the current PC software, firmware and the manual.
- The latest version of the MAGIC THipPro Lite software is freely available in the download section of our website http://www.avt-nbg.de.
- The installer contains the MAGIC THipPro Lite PC software and the matching firmware.
- Also check the DOCUMENTS and QUICK GUIDES sections on the website for further information.



MAGIC THipPro Lite

Initial Setup

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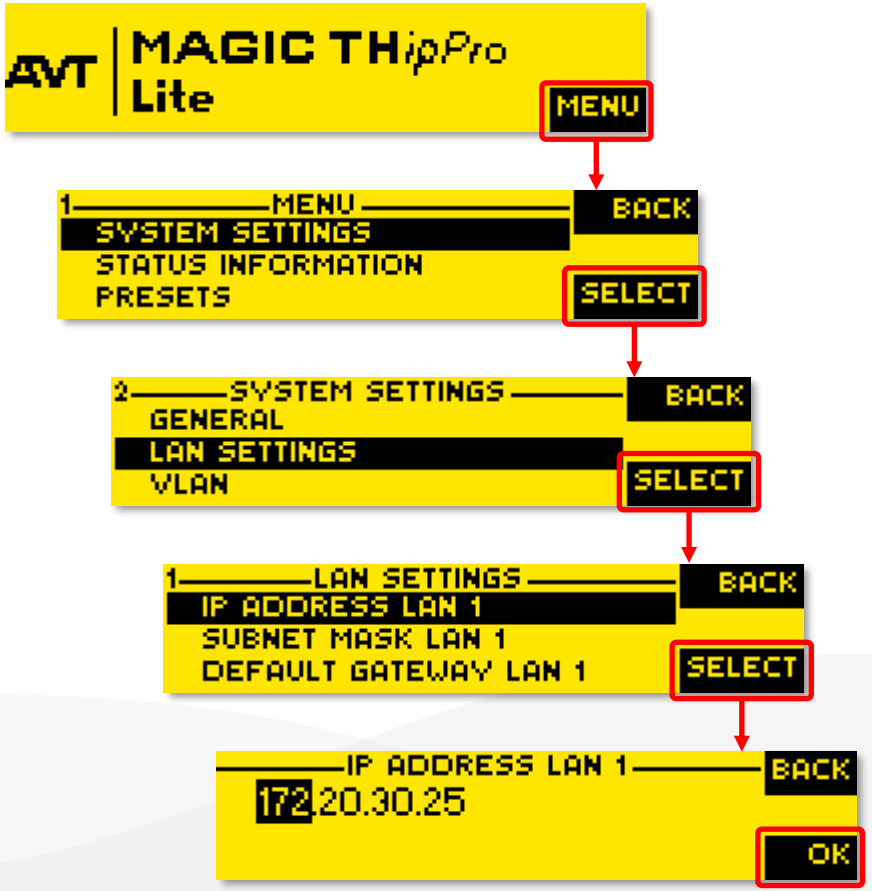
Initial Setup

- Connect the MAGIC THipPro Lite to the mains.
- Configure the IP address of the LAN interface via the front display as shown on the right.
  - The MAGIC THipPro Lite can be configured to use DHCP later via the PC software on the LAN INTERFACE configuration page.
- Subsequently also configure SUBNET MASK and DEFAULT GATEWAY of LAN interface 1.
- Connect the socket LAN 1 of the device to the Ethernet network and connect the PC software.
- All further configurations should be done using the PC software.



MAGIC THipPro Lite

Connecting the software

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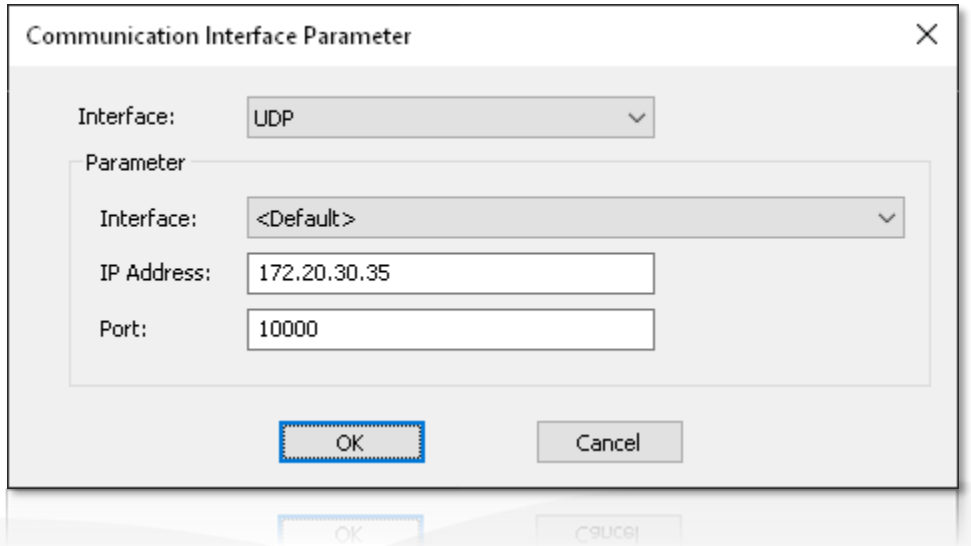
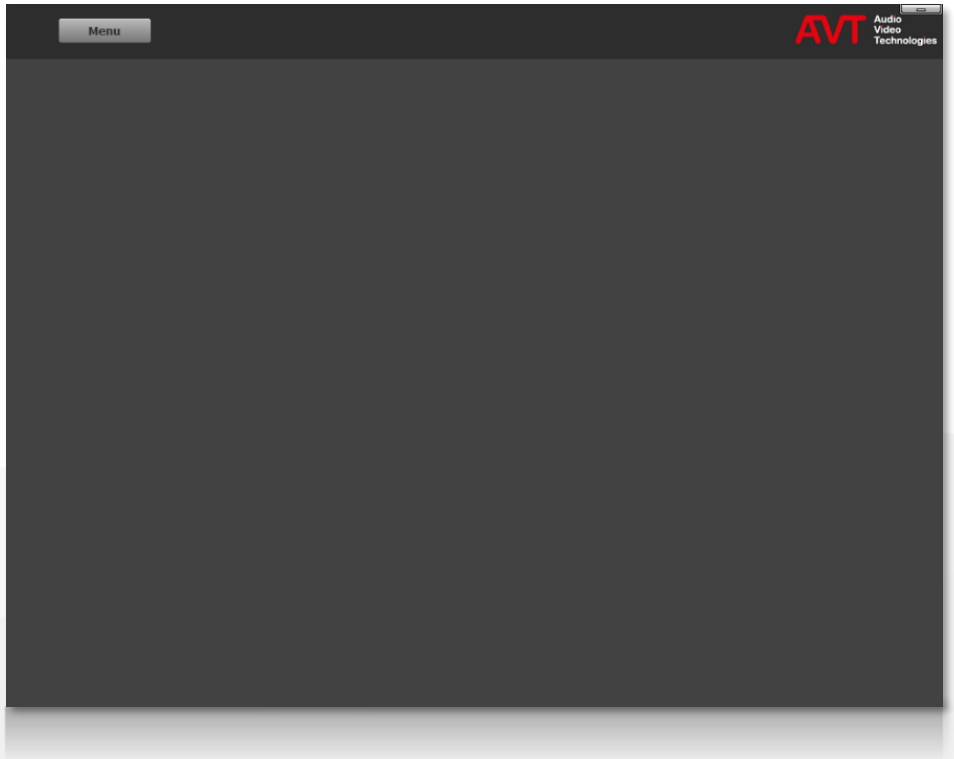
MAGIC THipPro Lite PC software (1)

- Run the MAGIC THipPro Lite setup.exe to install the software.
- Run the software as administrator.
  - Right click the MAGIC THipPro Lite icon on the desktop and select Run as administrator.
- Make sure to have the MAGIC THipPro Lite connected to the local network.
- In the MAGIC THipPro Lite software open **Menu > Configuration > Control Interface**.
  - INTERFACE: Select UDP.
  - PARAMETER – INTERFACE: Select the network interface of the PC which has access to the unit.
  - PARAMETER – IP-ADDRESS: Enter the IP address of the MAGIC THipPro Lite (default: 192.168.96.102). Get the current IP address from the MAGIC THipPro Lite's front display by pressing the HANG UP button (to the right of the OK button) repeatedly.
  - PARAMETER – PORT: Enter the control port of the MAGIC THipPro Lite (default: 10000).



MAGIC THipPro Lite PC software (2)

- If the PC software doesn’t get an answer from the MAGIC THipPro Lite it will show NO CONNECTION in the upper right corner.
- When the LAN Client software connects to a MAGIC THipPro Lite with factory settings the main panel is empty.
- Follow the following First Steps for a basic configuration.



MAGIC THipPro Lite

First Steps

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First steps (2)

- In the PC software go to **Menu > Configuration > System > Operation Settings > Clients / Security**.
  - Enter the Windows device names or IP addresses of the PCs which should access the THipPro Lite.
- Open the **Mode & Audio Line** configuration page.
  - Select an **Operation Mode**.
  - Add the channels to the studio(s) at the right.
  - Select an **Audio Interfaces** for each **Audio Line** in the **Audio Assignment** table.
- Go to the **Line Interface** configuration page.
  - Select the **Line Mode** (POTS and/or VoIP)
- If VoIP is selected, go to the VoIP (LAN/SIP) configuration page.
  - Enter the VoIP account information you received from the VoIP provider for each line.

- Find more information on the following pages.

MAGIC THipPro Lite

Possible Applications

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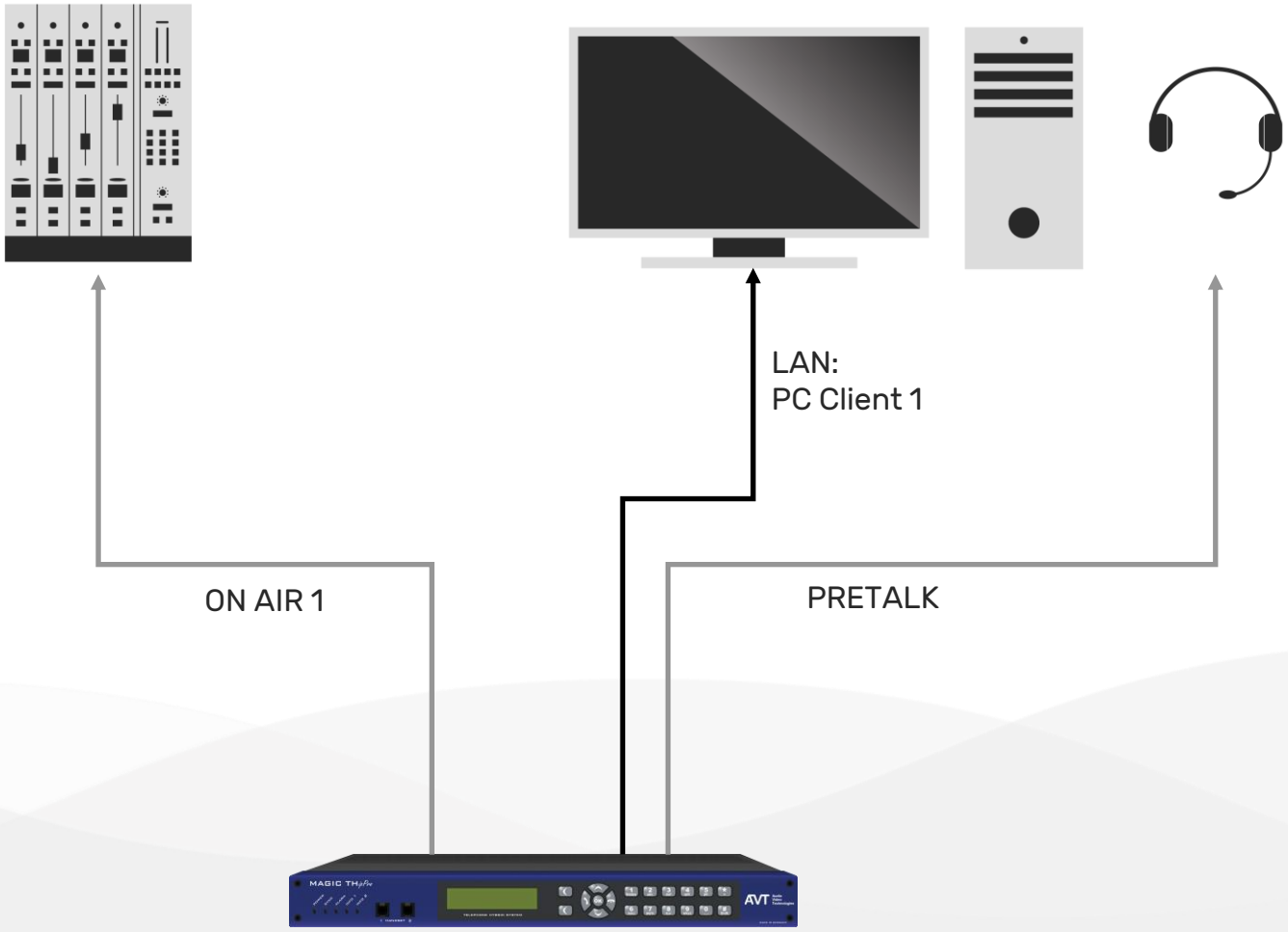
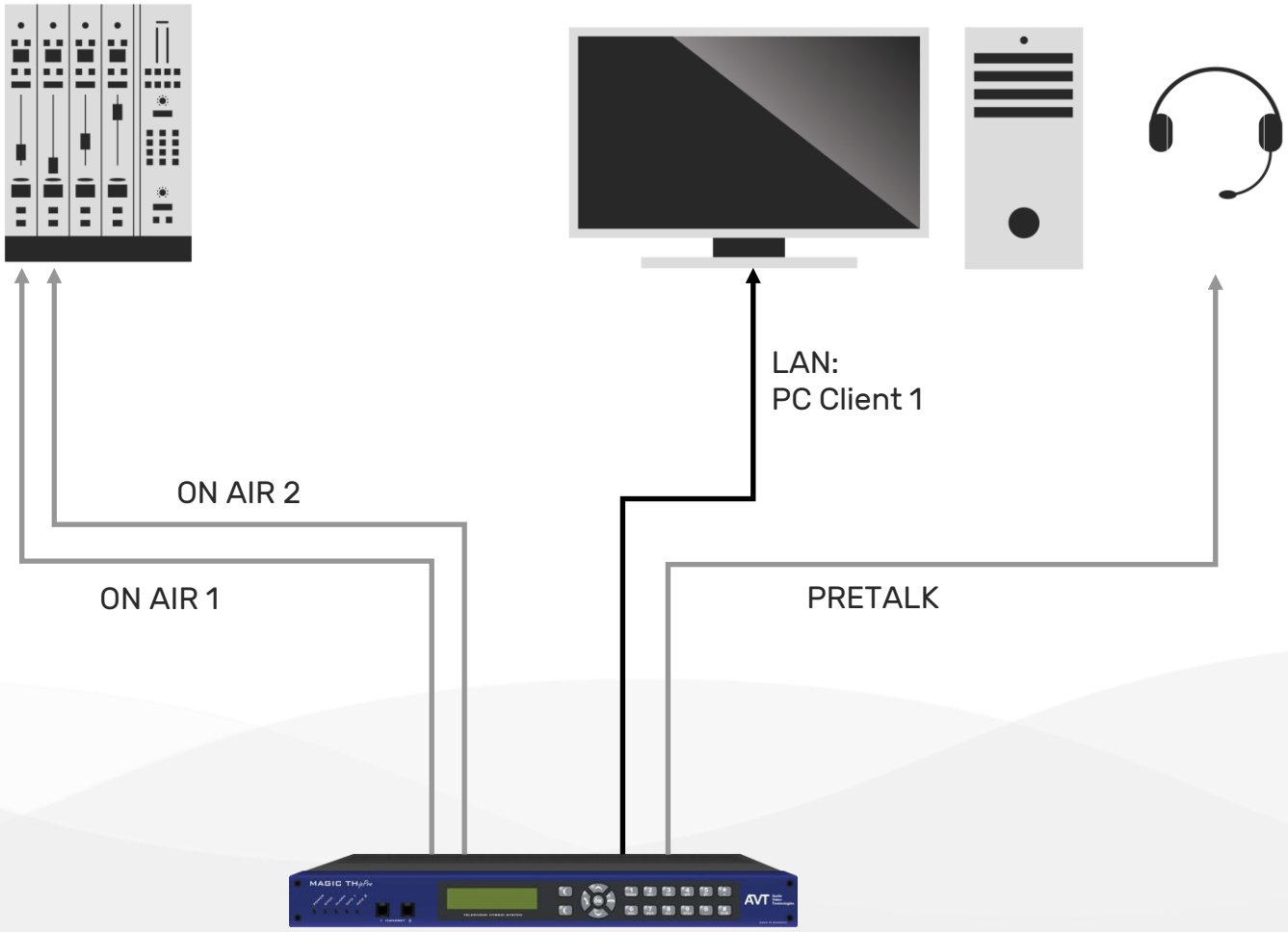
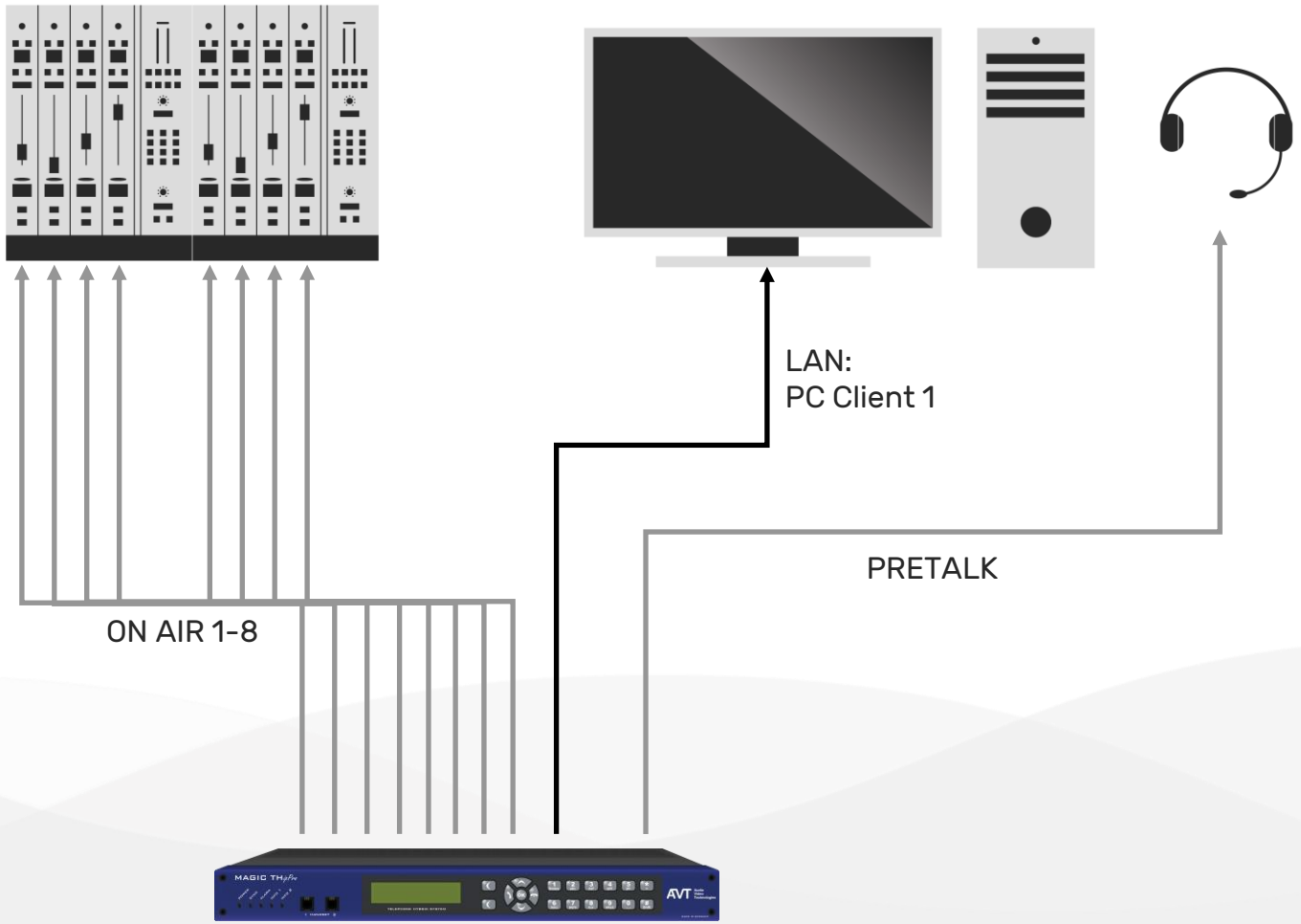
1 Studio / One Fader



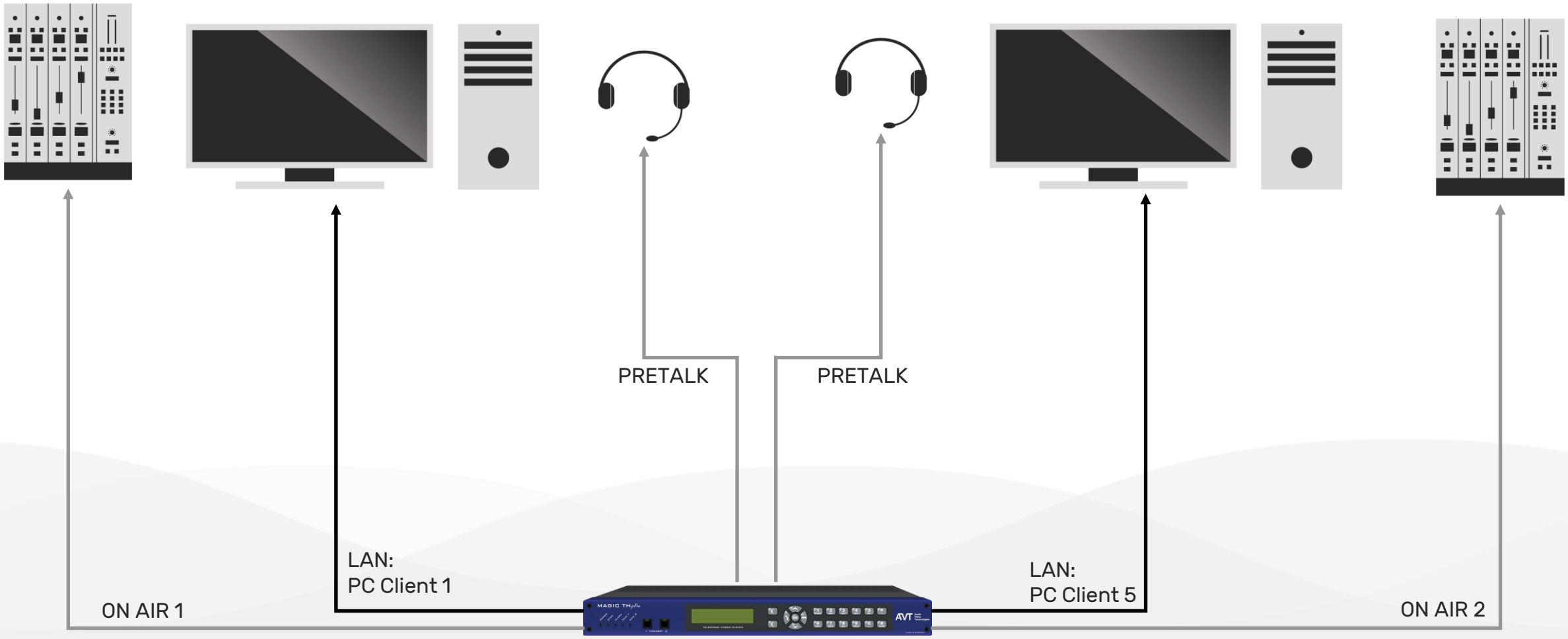
1 Studio / Two Faders



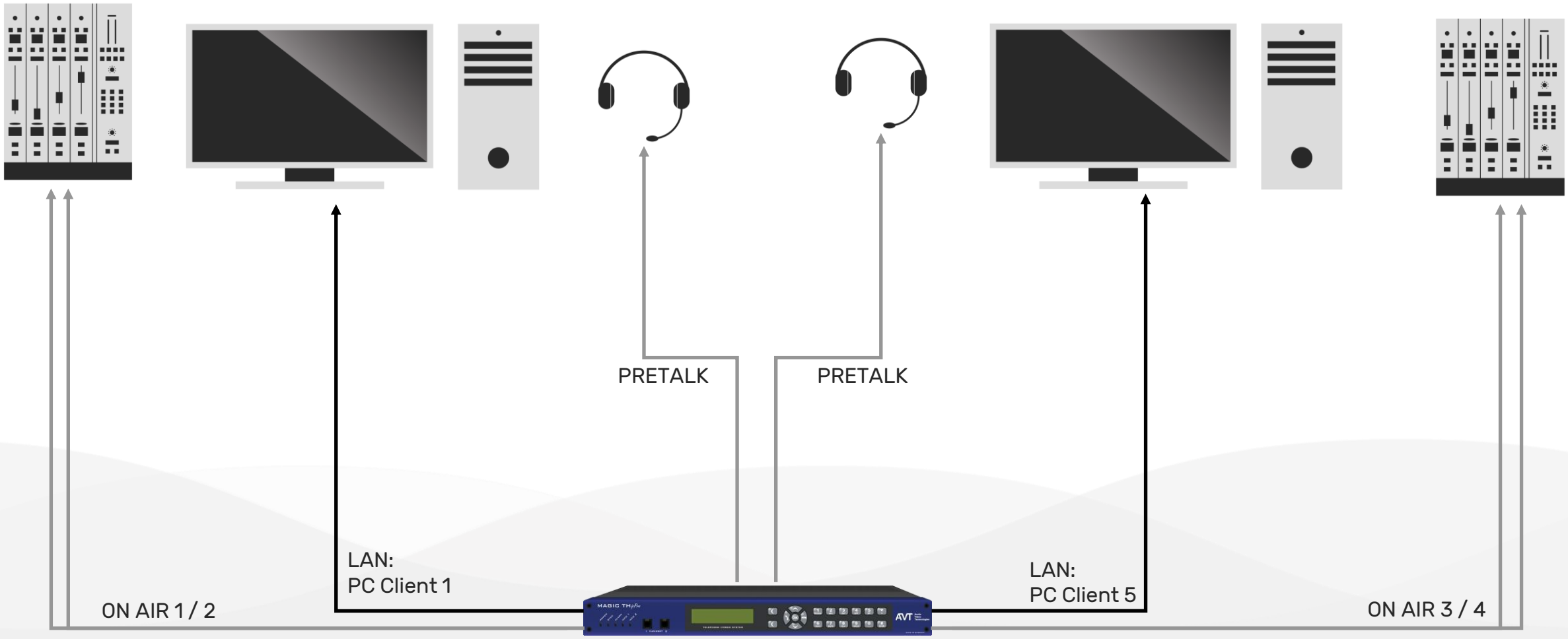
1 Studio / Eight Faders



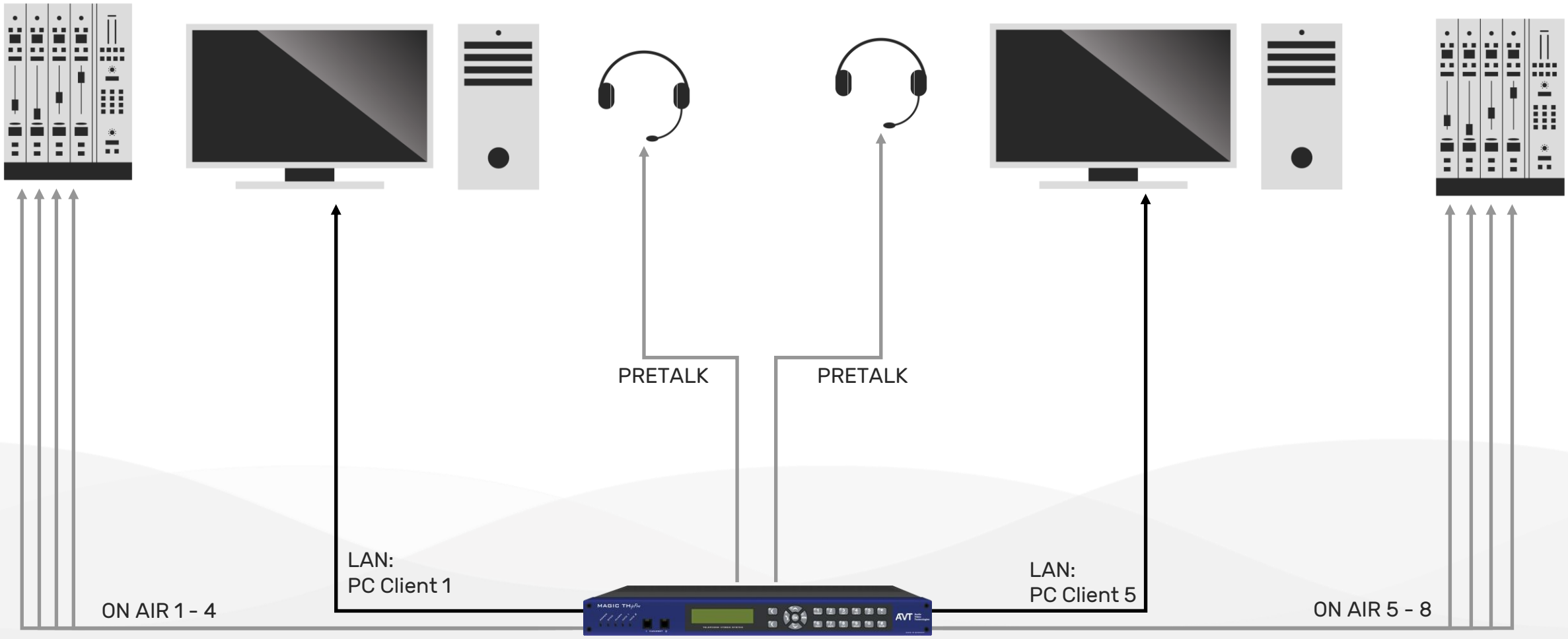
2 Studios / One Fader



2 Studios / Two Faders



2 Studios / Two Faders



MAGIC THipPro Lite

System Settings

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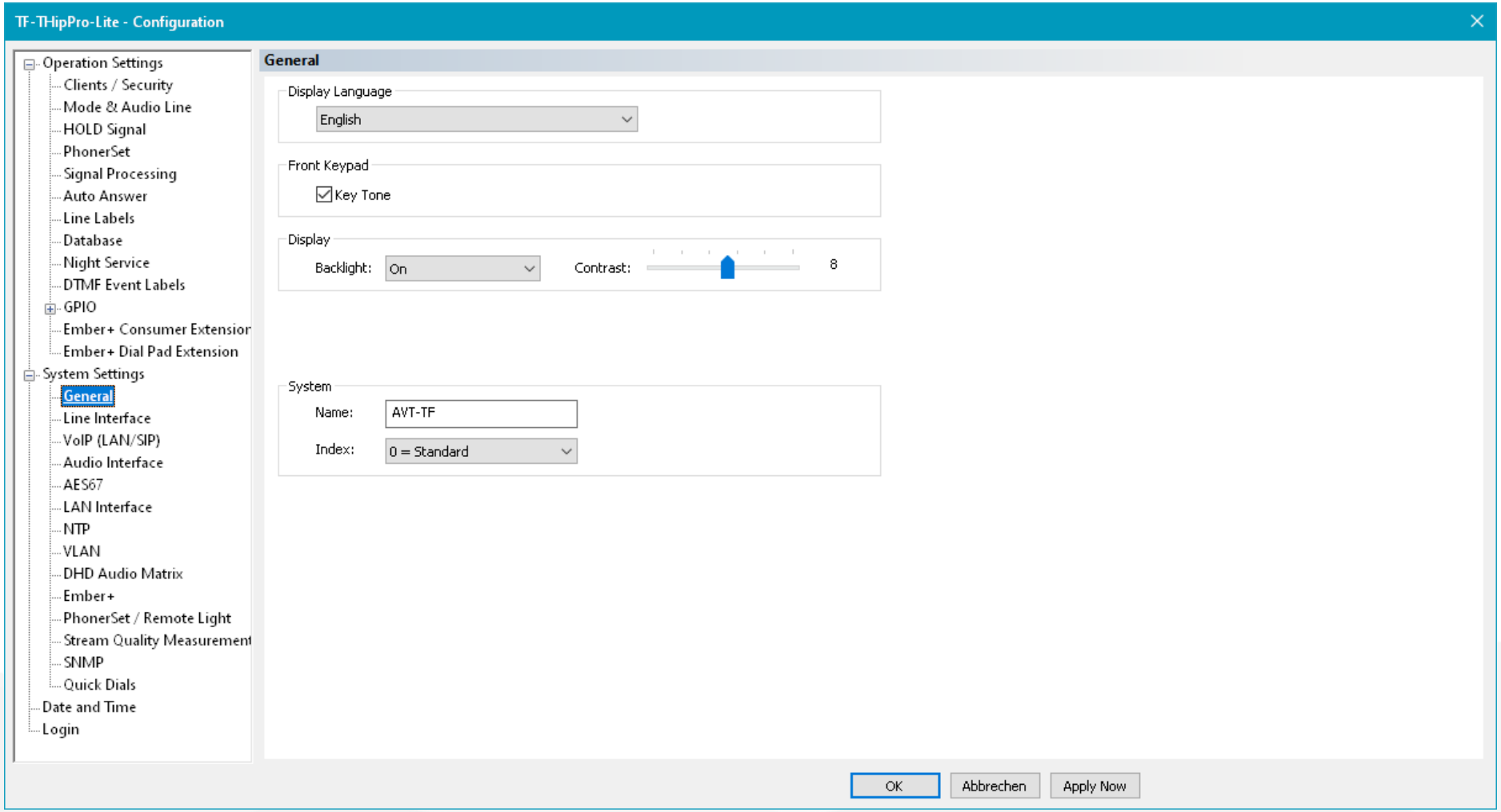
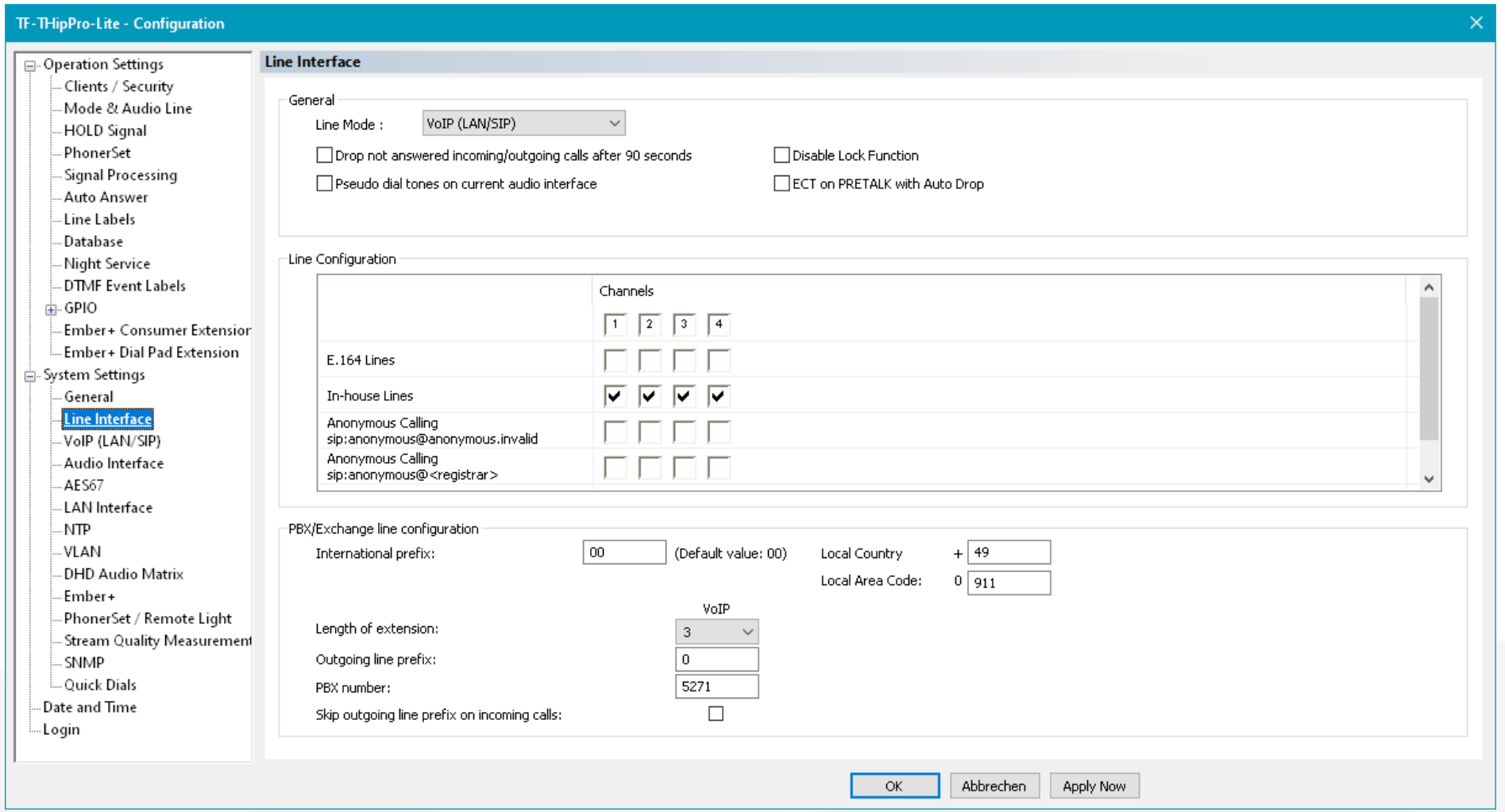

TF-THipPro-Lite - Configuration
Operation Settings
Clients / Security
Mode & Audio Line
HOLD Signal
PhonerSet
Signal Processing
Auto Answer
Line Labels
Database
Night Service
DTMF Event Labels
GPIO
Ember+ Consumer Extension
Ember+ Dial Pad Extension
System Settings
General
Line Interface
VoIP (LAN/SIP)
Audio Interface
AES67
LAN Interface
NTP
VLAN
DHD Audio Matrix
Ember+
PhonerSet / Remote Light
Stream Quality Measurement
SNMP
Quick Dials
Date and Time
Login
General
Display Language
English
Front Keypad
Key Tone
Display
Backlight:
On
Contrast:
8
System
Name:
AVT-TF
Index:
0 = Standard
OK
Abbrechen
Apply Now

General (1)

- Configure the basic system parameters on the GENERAL page.
- DISPLAY LANGUAGE: The front display of the MAGIC THipPro Lite supports two languages:
  - ENGLISH
  - GERMAN
- FRONT KEYPAD – KEY TONE: Enable the key click.
- DISPLAY: Set the parameters of the front display:
  - BACKLIGHT:
    - AUTO: Turns on when a key is pressed and turns off after a few seconds.
    - ON: Permanently on.
  - CONTRAST: Adjust the contrast to improve the clarity of the front display.

- SYSTEM
  - NAME: Enter a system name which is used:
    - to identify the device in the optional MAGIC SYSTEM MANAGER.
    - to address the device in the CONTROL INTERFACE configuration.
    - as the SIP display name.
    - request an IP address via DHCP.
    - to identify the system via the front display.
  - INDEX: The system index is only used if multiple MAGIC THipPro Lite systems use the same SQL database for the phonebook. All systems connected to a common phonebook database will show the same phonebook entries. But call history entries are filtered using the system index.
    - MAGIC THipPro Lite systems with different indexes will not show each others call history.
    - MAGIC THipPro Lite systems using the same index will show the same call history.

General (2)



Line Interface (1)

- Configure the basic parameters for connecting to the telephone network on the LINE INTERFACE page.
- LINE MODE: Specifies the type of telephone network the MAGIC THipPro Lite is connected to.
  - VOIP (LAN/SIP): Voice over IP provides digital audio transmission over IP networks. The audio quality is automatically negotiated at call setup. The MAGIC THipPro Lite supports two algorithms:
    - G.711 (3.4 kHz audio bandwidth)
    - G.722 (HD-Voice, 7 kHz audio bandwidth with HD-Voice software upgrade).
    - For incoming calls, the MAGIC THipPro Lite always uses the best algorithm that is supported by the calling station.
  - POTS: Plain Old Telephone Service provides analogue audio transmission with 3.1 kHz audio bandwidth. Requires the POTS hardware upgrade which consists of one or two modules providing four channels each.
  - POTS & VOIP (LAN/SIP): Mix POTS and VoIP channels. The line mode must be specified for each channel separately in the LINE CONFIGURATION below. The number of VoIP and POTS channels does not add up.
    - POTS GATEWAY 4/8 LINES: Allows you to connect the THipPro Lite via predefined VoIP accounts to a POTS gateway with up to 8 analogue telephone lines. The POTS gateway must be purchased from AVT.
- DROP NOT ANSWERED INCOMING/OUTGOING CALLS AFTER 90 SECONDS: The THipPro automatically ends unanswered calls after 90 seconds.
- PSEUDO DIAL TONES ON CURRENT AUDIO INTERFACE: Enable to hear the dialling of numbers on the current audio line (Pretalk, On Air, PhonerSet, …). The tones do not correspond to the actual number dialled to protect the privacy of the called party.

Line Interface (2)

- DISABLE LOCK FUNCTION: If enabled, a line can not be locked by pressing the DROP button on a disconnected line.
- ECT ON PRETALK WITH AUTO DROP: By default, call forwarding in Pretalk allows you to have a conversation with the forwarding destination. Activate this option to forward a call directly.
  - Note: Talking in Pretalk is only possible if the VOIP CALL TRANSFER TYPE is set to ATTENDED CALL TRANSFER or AUTO under LOCAL SETTINGS > WINDOW PARAMETERS on the respective PC software client.
- LINE CONFIGURATION: Specify parameters for each telephone line separately:
  - E.164 LINES: Activate this option if the PBX requires the THipPro to dial numbers in an internationally unique format according to ITU-T recommendation E.164. (E.g., +49 911 5271 110)
  - IN-HOUSE LINES: Specify lines connected to a PBX. Required to distinguish between internal and external calls. Prefix digits for dialling external telephone numbers may automatically be inserted when configured in the PBX / EXCHANGE LINE CONFIGURATION .
  - VOIP LINES: When the POTS & VoIP mode is selected, check channels which should use the VoIP mode. The other channels use POTS.

Line Interface (3)

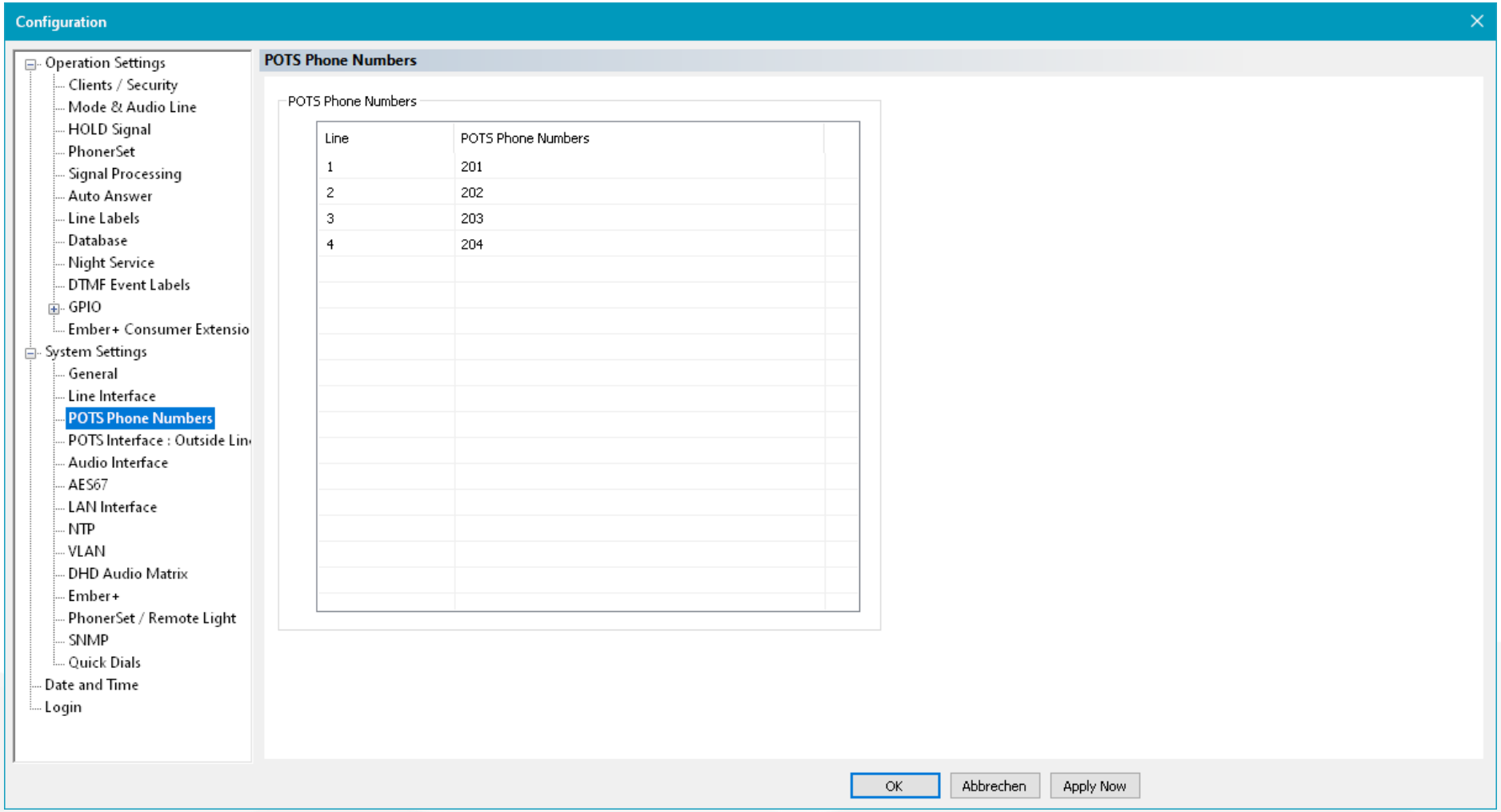
- ANONYMOUS CALLING: Checked channels signal “Anonymous” instead of the phone number or Display Name to keep the number secret. Whenever possible, this should rather be configured in the PBX or on the provider's side.
  - NOTE: Some VoIP providers / SIP servers block devices that hide their identity.
  - Two formats for anonymous calling can be used by the THipPro Lite. They define how the own number is transmitted to the SIP server. The format to be used is determined by the VoIP provider.
    - sip:anonymous@anonymous.invalid
    - sip:anonymous@<registrar>
      (where <registrar> is the SIP server entered for that line on the VoIP (LAN/SIP) configuration page)
- REJECT ANONYMOUS INCOMING CALLS: Check a line to let the THipPro Lite reject calls which don’t include the caller’s phone number.

- The PBX / EXCHANGE LINE CONFIGURATION section specifies the basic local telephone number format.
  - INTERNATIONAL PREFIX: Prefix digits for dialling international telephone number. (default: “00”, don’t set to “+”)
  - LOCAL COUNTRY CODE: Required for E.164 mode. The THipPro adds the country code automatically to telephone numbers on outgoing calls if it is not provided by the user.
  - LOCAL AREA CODE: Required for E.164 mode. The THipPro adds the area code automatically to telephone numbers on outgoing calls if it is not provided by the user.

Line Interface (5)

- The INHOUSE LINES section specifies the format of internal numbers and the numbers to connect to the outside world. These settings apply to channels marked as IN-HOUSE LINES. There are individual settings for VoIP and POTS.
  - LENGTH OF EXTENSION: Number of digits of internal phone numbers.
  - OUTGOING LINE PREFIX: Prefix digit inserted before the number to dial external phone numbers.
  - PBX NUMBER: The office / trunk number. Required in mixed line mode (ISDN/POTS & VoIP) or if some but not all channels are in-house lines.
  - SKIP OUTGOING LINE PREFIX ON INCOMING CALLS: Some PBXs signal the calling party's number including the prefix digits, some don't. Set this option so, that the number of incoming calls is displayed without the prefix digits in the PC software.

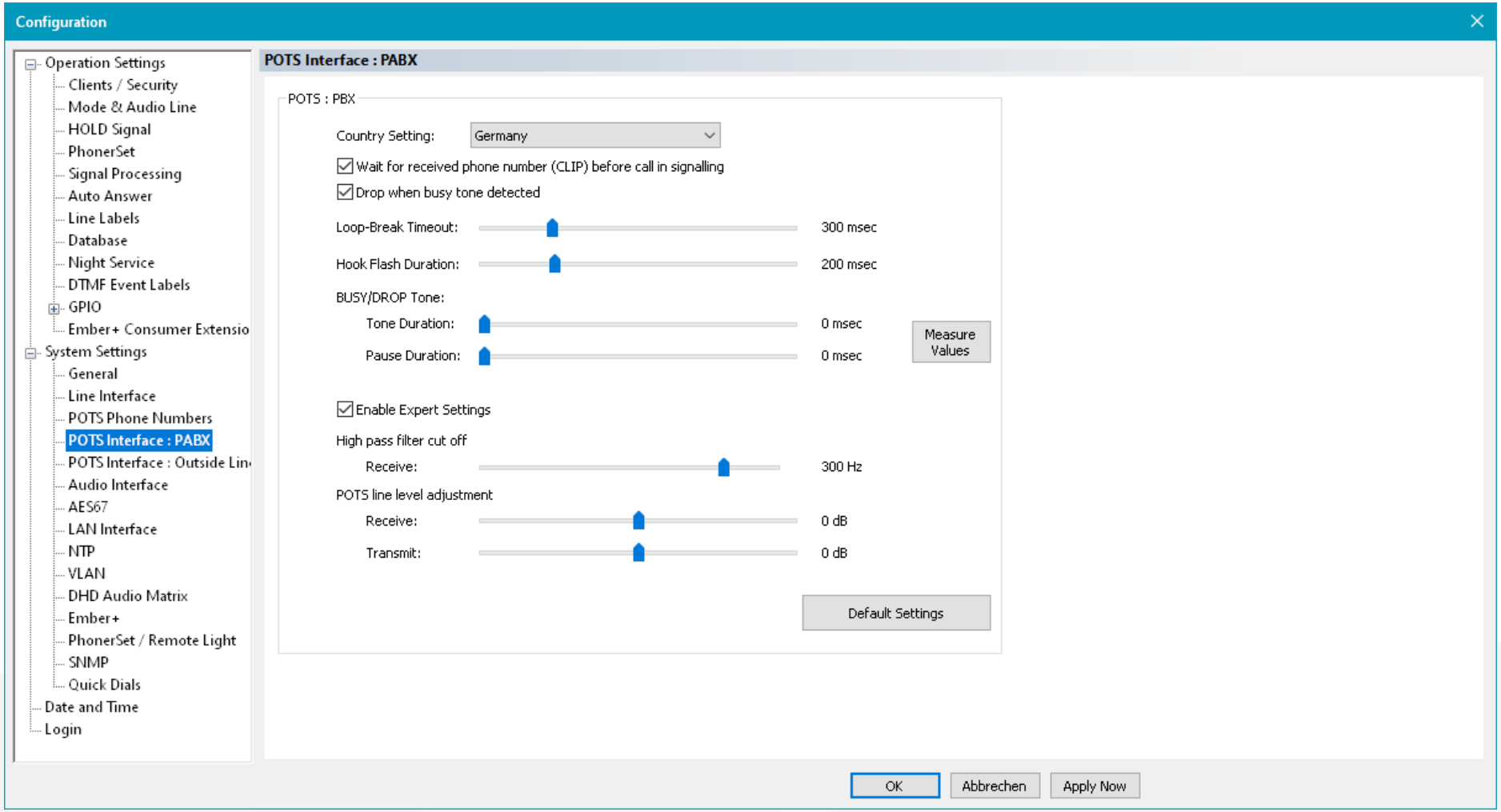
Line Interface (6)



POTS Phone Numbers (1)

- The POTS PHONE NUMBERS page is displayed only if there are POTS channels configured on the LINE INTERFACE page.
- There is no technical necessity to specify the POTS phone numbers.
- Enter the POTS phone numbers if you like to display them in the line labels. On the LINE LABELS page you may use the {lineid} wildcard to display the POTS phone number.

POTS Phone Numbers (2)



POTS Interface: PABX / Outside Line (1)

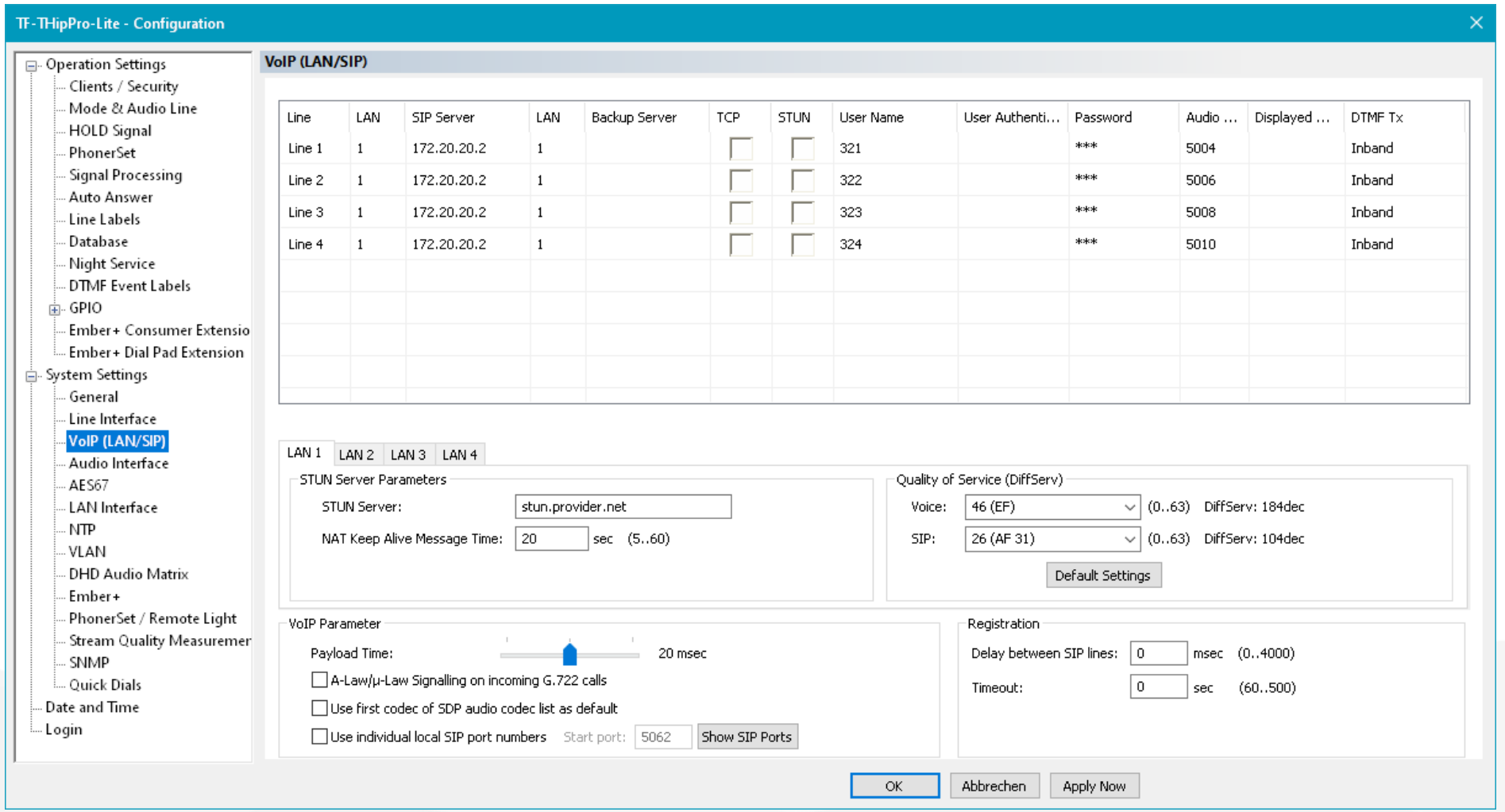
- The POTS INTERFACE pages are displayed only if there are POTS channels configured on the LINE INTERFACE page.
- The POTS interface parameters for channels connected to a PABX are configured on the POTS INTERFACE: PABX page.
- The POTS interface parameters for channels connected directly to the public telephone network are configured on the POTS INTERFACE: OUTSIDE LINES page.
- The parameters are the same for both variants:
  - COUNTRY SETTING: Defines the POTS interface's impedance. Finding the correct setting is crucial to minimize echo. Set the country of your location or use the country of manufacture of the PBX as a guideline.
  - WAIT FOR RECEIVED PHONE NUMBER (CLIP) BEFORE CALL IN SIGNALLING: The calling party's phone number is signalled between the first and the second ringing. Enable this setting the incoming call should be ignored until the second ringing. The call will be visible from the second ringing even if no phone number is detected.
  - DROP WHEN BUSY TONE DETECTED: Enable if the system should drop the call automatically when the disconnected tone (busy tone) is heard on the telephone line. You may define a custom tone or the measure the tone in the BUSY / DROP TONE section.
  - LOOP-BREAK TIMEOUT: Defines the minimum time the loop current of the telephone line must be interrupted for the MAGIC THipPro Lite to drop the call. Short interrupts are used to signal events in the network (e.g., initiate call forwarding). Longer interrupts indicate a problem in the network. When the timeout is set too low, accidental disconnects may happen. (default: 300ms)
  - HOOK FLASH DURATION: A hook flash signals the network that a device wants to forward a call. Adjust the hook flash duration if there are problems forwarding calls.

POTS Interface: PBX / Outside Line (2)

- BUSY / DROP TONE: The MAGIC THipPro Lite can detect if the remote station has hung up. It is monitoring the audio signal for a sequence of tones and pauses with defined duration. The sequence might be different for every PBX or provider.
  - TONE DURATION: Specify a custom tone duration.
  - PAUSE DURATION: Specify a custom pause duration.
  - MEASURE VALUES: Click the button to measure the actual sequence and set it as custom tone and pause duration. To measure the values correctly make sure the drop tone can be heard on the first telephone line connected to the PBX or to the public network, respectively.

- ENABLE EXPERT SETTINGS: Help to improve the audio signal on telephone lines with difficult line characteristics.
  - HIGH PASS FILTER CUT-OFF > RECEIVE: Sounds below this frequency are filtered out (e.g., low frequency hum).
  - POTS LINE LEVEL ADJUSTMENT
    - RECEIVE: Increase the value to amplify the audio signal coming in from the telephone line. Decrease the value if the audio is distorted.
    - TRANSMIT: Increase the value to send a louder signal. Decrease the value if the audio signal sounds distorted at the remote station.
- DEFAULT SETTINGS: Resets all values on the page to factory settings.

POTS Interface: PBX / Outside Line (3)



VoIP (LAN/SIP) (1)

- Enter the SIP credentials for each telephone line as well as SIP protocol parameters on the VOIP (LAN/SIP) page.
- The MAGIC THipPro Lite provides up to 8 VoIP channels which are completely independent from each other. The parameters must be defined for each VoIP line:
  - LINE: Shows the number of the telephone line.
  - LAN: LAN interface of the MAGIC THipPro Lite which connects to the primary SIP server.
  - SIP SERVER: Primary SIP server. May consist of three parts. Only SIP-Server is mandatory: proxy@SIP-Server:port
    - PROXY: IP address or host name of the proxy server.
    - SIP-SERVER: Also referred to as REALM or REGISTRAR. IP address or host name.
    - PORT: Server port of the SIP protocol. May be omitted if the default port 5060 is used.
  - LAN: LAN interface of the MAGIC THipPro Lite which connects to the backup SIP server.
  - BACKUP SERVER: The MAGIC THipPro Lite monitors constantly if the primary SIP server is available. If not, it switches to the backup SIP server. When the primary SIP server becomes available again, the MAGIC THipPro Lite switches back to the primary SIP server. See SIP SERVER for more information.
  - TCP: Enable to use TCP to connect to the SIP server. Otherwise UDP is used.
  - STUN: Enable if STUN is required by the SIP server. Specify the STUN server for the LAN interfaces of primary and backup SIP server on the same page below.

VoIP (LAN/SIP) (2)

- USER NAME: Identifies the SIP account. Usually the user name is the phone number of the extension or the public phone number.
- USER AUTHENTICATION: Identifies the user account if a password is needed to access a SIP server. When the user authentication field is left blank, the device will use the user name for authentication.
- PASSWORD: The password for the SIP account.
- AUDIO PORT (UDP): Local UDP port for the audio transmission of this VoIP channel. It is recommended to use only straight numbers. (default: 5004,5006, 5008, …)
  - SET DEFAULT AUDIO PORTS: Sets the audio ports (UDP) to their default values)
- DISPLAYED NAME: Text entered here will be displayed on the telephones of the callers. Note that PBXs or providers may override the displayed name.

- DTMF TX: DTMF tones are used to transmit digits such as pin codes via a telephone system. With VoIP, there are several ways to transmit DTMF tones. The MAGIC THipPro Lite supports the transmission via INBAND audio signal or via RFC2833. Change this setting if receivers such as conference systems do not accept the code.

VoIP (LAN/SIP) (3)

- LAN 1 – 4: Define STUN settings and Quality of Service settings for each LAN interface.
  - STUN SERVER PARAMETERS: Using a STUN server may be mandatory by the VoIP (SIP) provider. Only one STUN server is required per LAN interface even if the LAN interface is used to connect to multiple providers.
    - STUN SERVER: Enter the IP address or the host name of the STUN server specified by the VoIP provider.
    - NAT KEEP ALIVE INTERVAL: Set the time interval at which the MAGIC THipPro Lite sends periodic Keep-Alive packets to the SIP Server. Thus, routers and firewalls keep the SIP communication ports open. This allows the SIP server to notify the device about incoming calls. Keep-Alive packets are only sent if STUN is enabled for the respective SIP account. (default: 20 seconds)

- QUALITY OF SERVICE (DIFFSERV): End-to-end Quality-of-Service is only possible when it is supported by all network elements.
  - RFC2474 defines Differentiated Services (DiffServ), a mechanism to classify network traffic.
  - The 8-bit Differentiated Services Field (DS-Field) is part of the IPv4 header. It contains:
    - DSCP: The 6-bit Differentiated Services Code Point is used to classify the payload of the IPv4 packet.
    - ECN: The remaining 2 Bits are reserved for flow control which is not supported by MAGIC THipPro Lite. (default value = 0)
  - Typical values used for VoIP are:
    - Voice (RTP)
      - DiffServ = 184dec
      - Corresponds to: DSCP = 46dec
    - SIP
      - DiffServ = 104dec
      - Corresponds to: DSCP = 26dec
  - DEFAULT SETTINGS: Set the Quality-of-Service parameters back to factory settings.

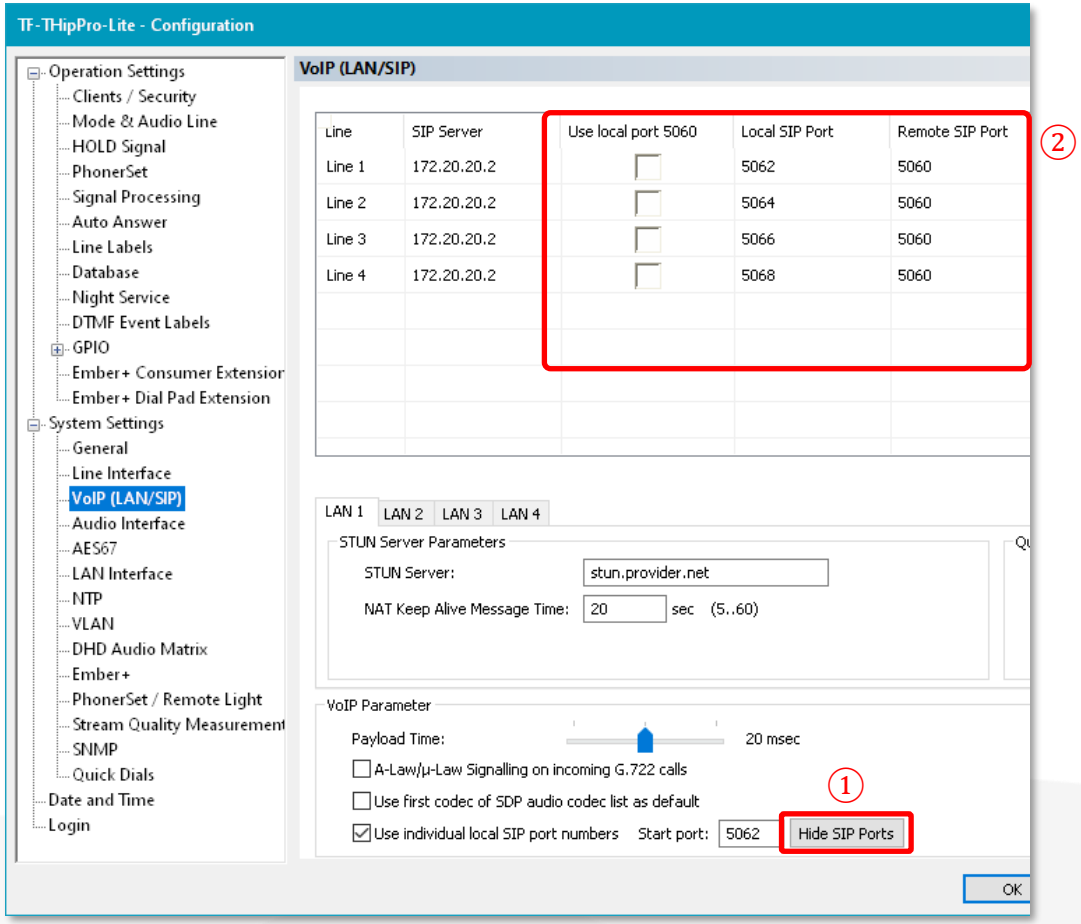
VoIP (LAN/SIP) (4)

- VOIP PARAMETER:
  - PAYLOAD TIME: Set the size of transmitted audio packets. Fixed at 20 ms for best compatibility with public telecommunication providers.
  - A-LAW/µ-LAW SIGNALLING ON INCOMING G.722 CALLS: Enable this settings if audio is missing or broken when forwarding calls or when receiving forwarded calls. This problem might occur when one of the participants is not capable of HD-Voice (G.722) and the PBX is not aware of that.
  - USE FIRST CODEC OF THE SDP AUDIO CODEC LIST AS DEFAULT: Enable this settings if phones call which announce a list of supported audio codecs but only work when the MAGIC THipPro Lite selects the first algorithm from the list.

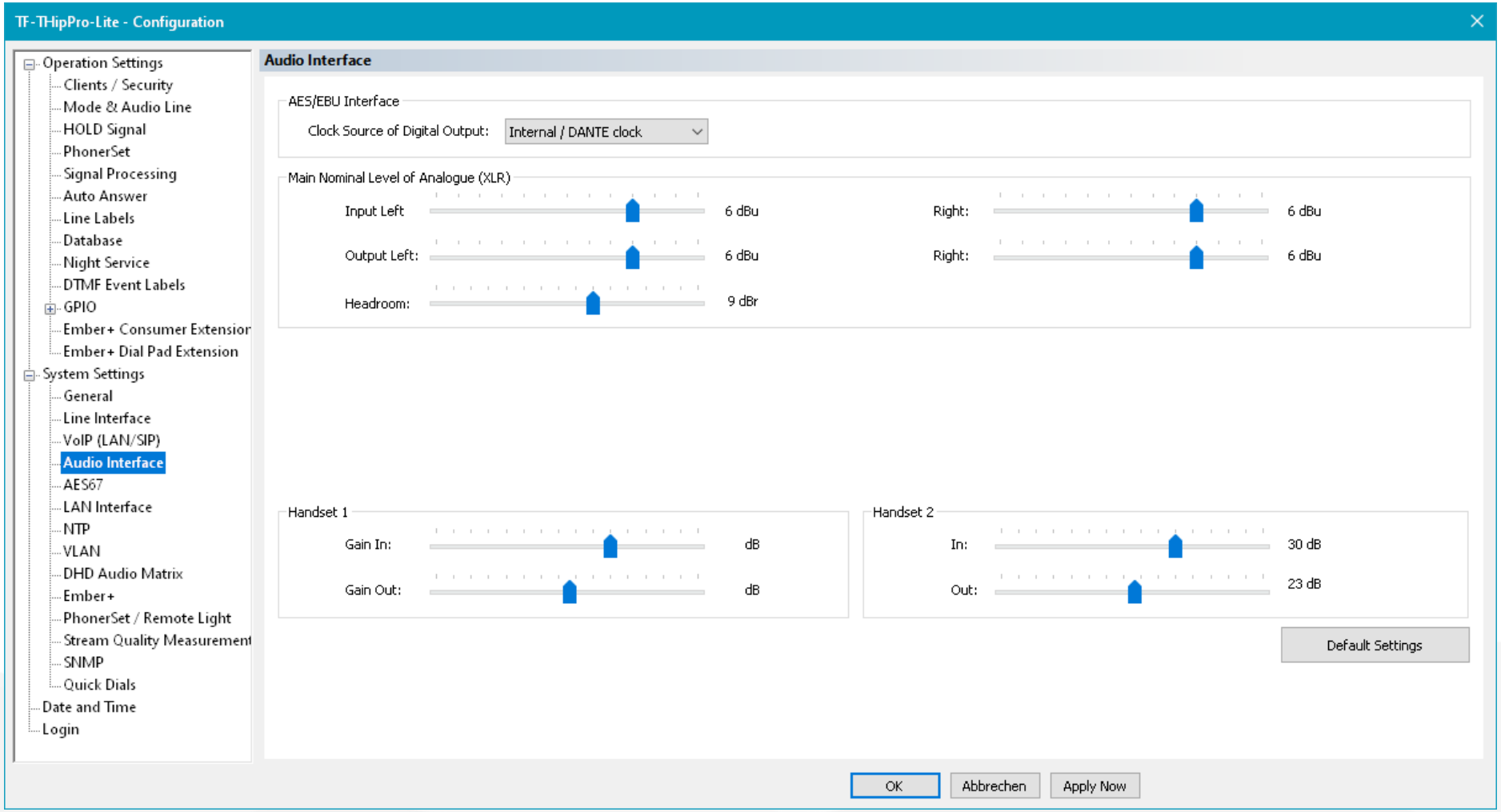
- REGISTRATION: These settings control the SIP registration process at the SIP server.
  - DELAY BETWEEN SIP LINES: During start-up MAGIC THipPro Lite simultaneously sends a SIP registration telegram for each VoIP channel to the SIP server. If this is overwhelming the SIP server this setting introduces a delay between the VoIP channels.
  - TIMEOUT: The MAGIC THipPro Lite renews the SIP registration every 60 seconds by default to check if the SIP server is still available. Increase the interval if the SIP server rejects the registration telegrams as too soon.

VoIP (LAN/SIP) (5)

- USE INDIVIDUAL LOCAL SIP PORT NUMBERS: Enable this setting if a SIP server requires the MAGIC THipPro Lite to use a different local SIP port for each VoIP line.
  - START PORT: SIP port used for the first VoIP channel. Further VoIP channels get straight SIP ports in ascending order. Try to avoid having port 5060 assigned to one of the lines.
  - SHOW / HIDE SIP PORTS ①: Click to show the automatically assigned SIP ports in the table above ②. Click again to change the view of the table again. The view also changes back again after 20 seconds with no user input.
- TABLE IN PORT VIEW
  - LINE: Shows the number of the telephone line.
  - SIP SERVER: Primary SIP Server. The remote SIP port can be changed here by appending ":<port>"
  - USE LOCAL PORT 5060: Enable for lines which must not use individual SIP port numbers.
  - LOCAL SIP PORT: Shows the local SIP port assigned to the VoIP line. Ports are derived from the START PORT or local port 5060 is used if enabled.
  - REMOTE SIP PORT: Shows the remote SIP port assigned to the VoIP line. Change the port in the SIP SERVER column.



VoIP (LAN/SIP) (6)



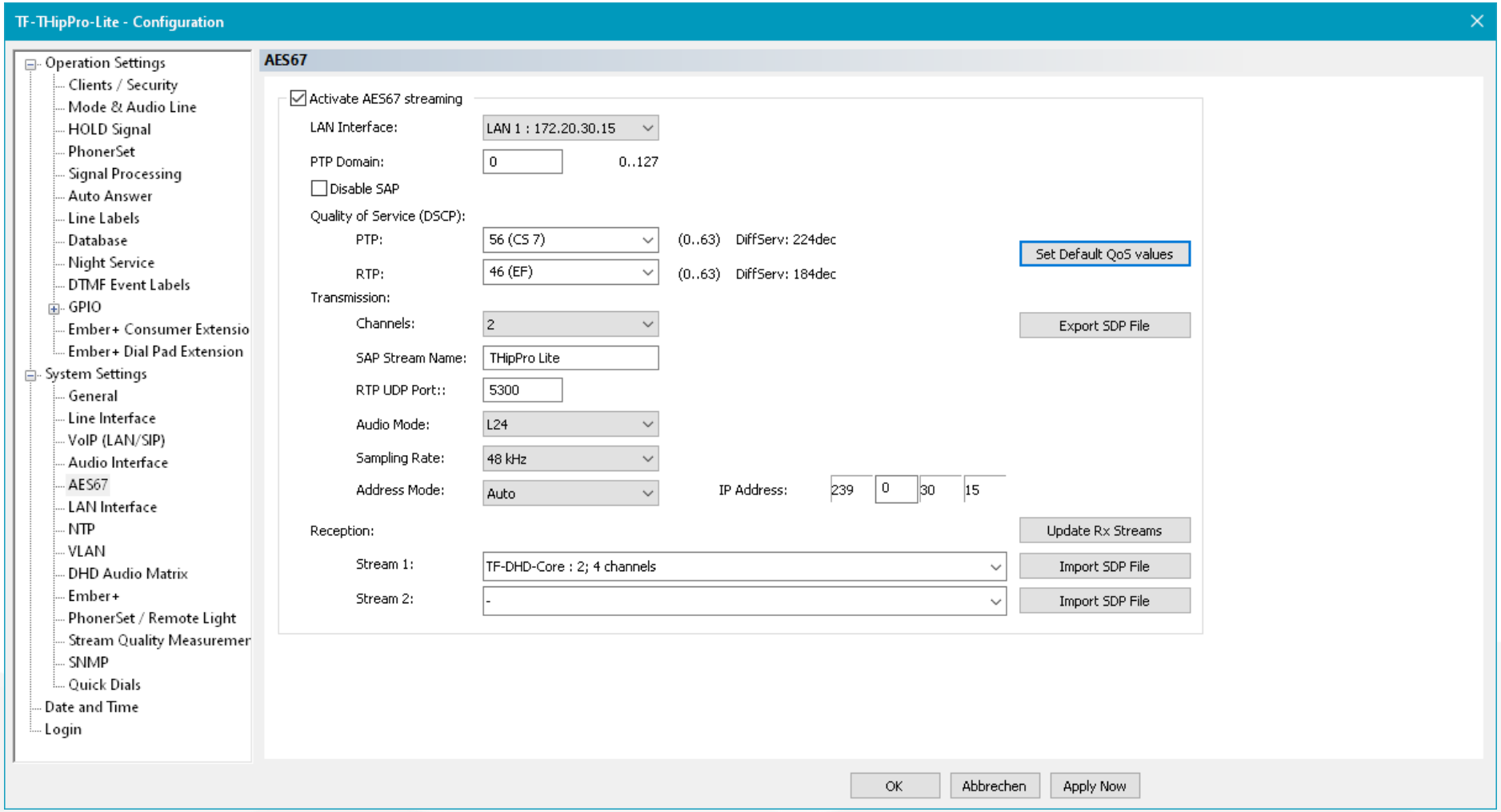
Audio Interface (1)

- Set the parameters of the analogue and digital audio interfaces on the AUDIO INTERFACE page.
- AES/EBU INTERFACE - CLOCK SOURCE OF DIGITAL OUTPUT: The MAGIC THipPro Lite has sample rate converters only on the AES/EBU inputs. The AES/EBU outputs run on the system's audio clock. Systems connected to the MAGIC THipPro Lite via AES/EBU may be required to have sample rate converters on their inputs. This setting specifies the clock to which the system's audio clock is synchronized. Some of the options may be unavailable depending on modules equipped, line mode or audio over IP settings.
  - INTERNAL: Synchronize to the clean internal clock .
  - INTERNAL / DANTE CLOCK: Synchronize to Dante clock if a Dante module is equipped and configured, otherwise the internal clock is used.
  - INTERNAL / RAVENNA CLOCK: Synchronize to Ravenna clock if a Ravenna module is equipped and configured, otherwise the internal clock is used.
  - INTERNAL / PTP CLOCK: Synchronize to the AES67 clock if AES67 is enabled, otherwise the internal clock is used.
  - EXTERNAL / CLOCK 1: Synchronize to the external clock supplied through the CLOCK 1 socket on the rear panel of MAGIC THipPro Lite.
  - RECOVERED / AES/EBU CLOCK: Synchronize to the clock of the audio signal supplied through the first AES/EBU input where a signal is detected.

Audio Interface (2)

- MAIN NOMINAL LEVEL OF ANALOG (XLR): Use these parameters to adjust the level of analogue audio signals to match the level of the digital audio inputs and outputs.
  - INPUT LEFT / RIGHT: Set the sensitivity of the audio inputs. Decreasing the value increases the audio level and vice versa. (default: 6dBu)
  - OUTPUT LEFT / RIGHT: Set the gain of the audio outputs. Decreasing the value decreases the audio level and vice versa. (default: 6dBu)
  - HEADROOM: Increase the headroom to decrease the analogue audio levels of the inputs to create a safety zone for internal audio mixing. Prevents the audio signal from clipping in the internal mixer. The analog output signal is amplified by the headroom. (default: 9 dBr)
- HANDSET 1/2: Set the audio levels of the handset interfaces on the front panel of the MAGIC THipPro Lite.
  - GAIN IN: Set the input gain for the microphone
  - GAIN OUT: Set the output gain for the loudspeaker.
- DEFAULT SETTINGS: Sets all levels to the default values.

Audio Interface (3)


TF-THipPro-Lite - Configuration
Operation Settings
Clients / Security
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HOLD Signal
PhonerSet
Signal Processing
Auto Answer
Line Labels
Database
Night Service
DTMF Event Labels
GPIO
Ember+ Consumer Extensio
Ember+ Dial Pad Extension
System Settings
General
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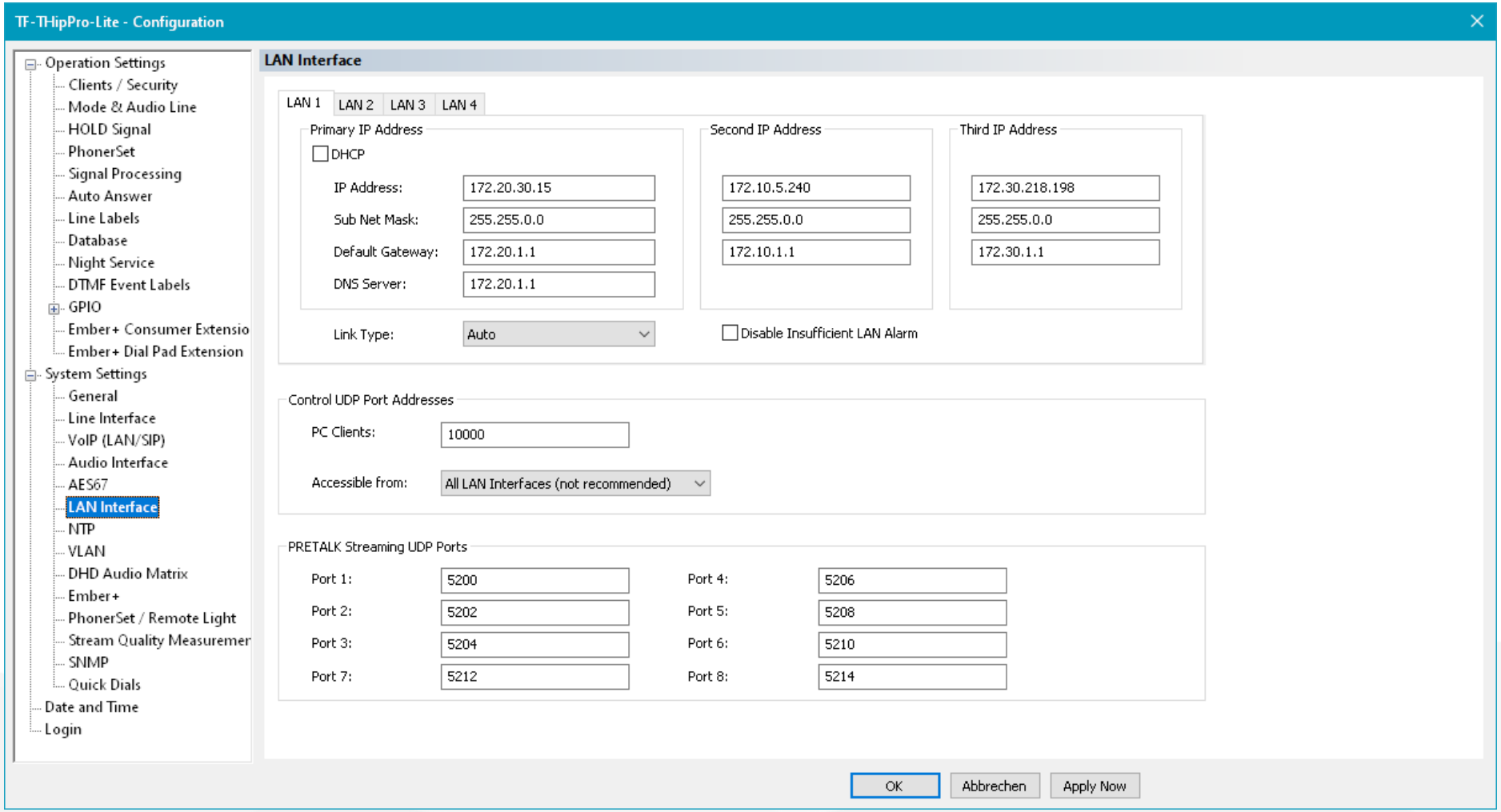
VoIP (LAN/SIP)
Audio Interface
AES67
LAN Interface
NTP
VLAN
DHD Audio Matrix
Ember+
PhonerSet / Remote Light
Stream Quality Measuremer
SNMP
Quick Dials
Date and Time
Login
AES67
Activate AES67 streaming
LAN Interface:
LAN 1 : 172.20.30.15
PTP Domain:
0
0..127
Disable SAP
Quality of Service (DSCP):
PTP:
56 (CS 7)
(0..63) DiffServ: 224dec
RTP:
46 (EF)
(0..63) DiffServ: 184dec
Set Default QoS values
Transmission:
Channels:
2
Export SDP File
SAP Stream Name:
THipPro Lite
RTP UDP Port::
5300
Audio Mode:
L24
Sampling Rate:
48 kHz
Address Mode:
Auto
IP Address:
239
0
30
15
Reception:
Update Rx Streams
Stream 1:
TF-DHD-Core : 2; 4 channels
Import SDP File
Stream 2:
-
Import SDP File
OK
Abbrechen
Apply Now

AES67 (1)

- Configure the technical parameters of AES67 audio over IP on the AES67 page.
  - Find the details in the **Audio over IP (AES67-DANTE-RAVENNA-LIVEWIRE)** document available in the download section of our website.

AES67 (2)



LAN Interface (1)

- Configure the basic parameters for connecting to IP networks on the LAN INTERFACE page.
- The MAGIC THipPro Lite Base Board has two Ethernet interfaces.
- The LAN 3/4 module adds two additional Ethernet interfaces.
- There are three IP addresses available for each LAN interface.
  - You must use the PRIMARY IP ADDRESS to connect to a SIP server when using the VoIP (LAN/SIP) line mode.
  - The second and third IP addresses may be used if VLANs (virtual networks) are enabled.
  - PCs may connect to each Ethernet interface and each IP address of the MAGIC THipPro Lite.

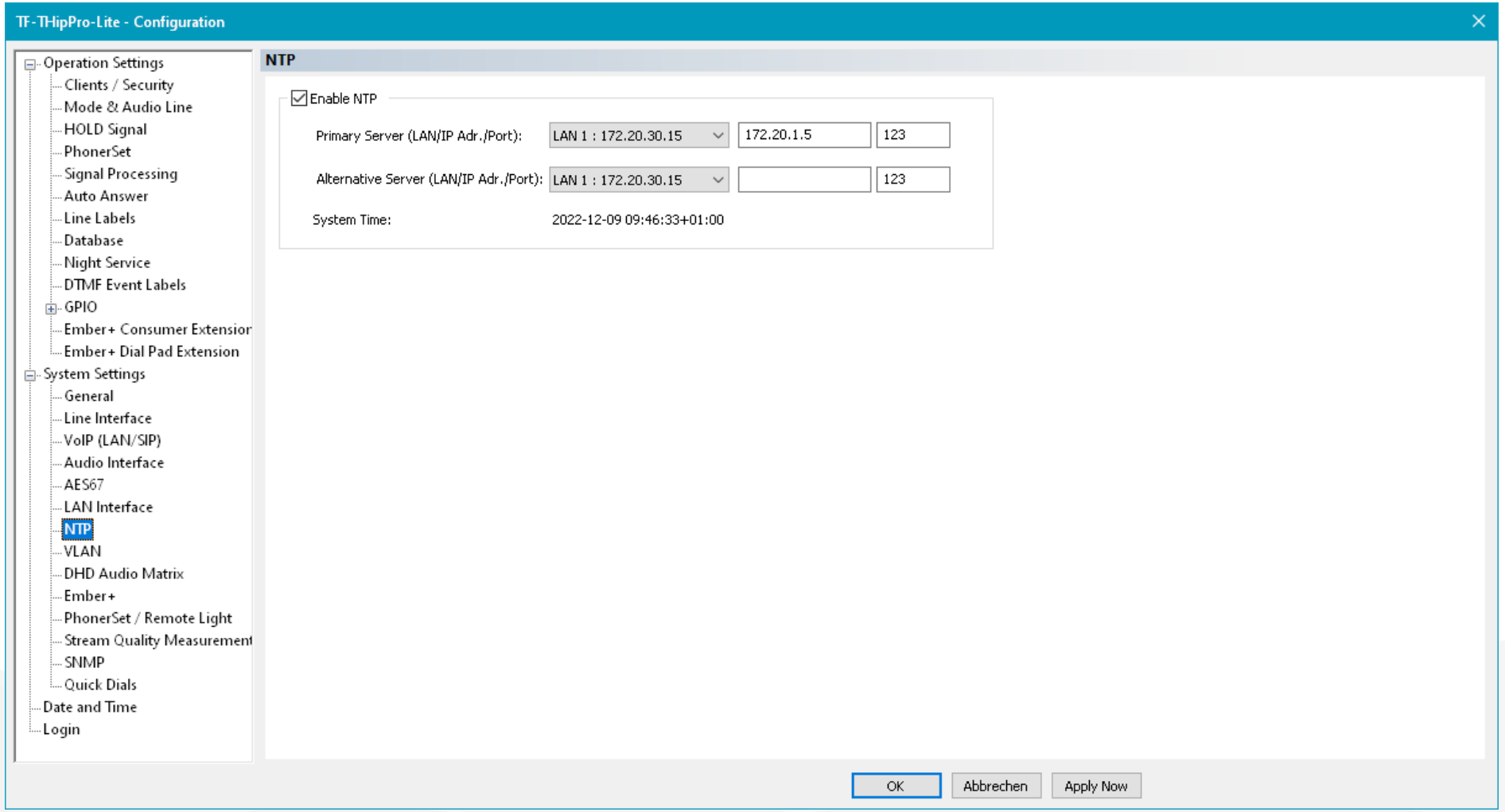
- When using VLANs:
  - Assign a service (Ember+, DHD, SNMP, PC control, ...) to a VLAN on the VLAN configuration page.
  - Assign a service (Ember+, DHD, SNMP, PC control, ...) to an IP address on the corresponding configuration page of the service.
- LAN X: Set IP addresses for each LAN interface.
  - DHCP: Retrieve an IP address automatically from a DHCP server.
  - IP ADDRESS: Enter a unique IP address. The default settings for the primary IP addresses are:
    - LAN1: 192.168.96.102
    - LAN2: 192.168.96.103
    - LAN3: 192.168.96.104
    - LAN4: 192.168.96.105
  - SUBNET MASK: Enter the bitmask describing the subnet. The default settings for the primary IP addresses are:
    - LAN1-LAN4: 255.255.255.0

LAN Interface (2)

- DEFAULT GATEWAY: Enter the IP address of the router in the local network. The default settings for the primary IP addresses are:
  - LAN1-LAN4: 192.168.96.1
- DNS SERVER: Enter the IP address of a DNS server. Required to resolve host names of SIP servers and STUN servers.
- LINK TYPE: Sets the mode for crossover cable detection. (default: auto)
- DISABLE INSUFFICIENT LAN ALARM: Disables the application alarm that occurs when the Ethernet connection does not provide 100 Mbit/s, full duplex operation.
  - 100 Mbit/s / full duplex is required for audio transmission.

- PC CLIENT CONNECTION: Configure the parameters of PC the control connections.
  - UDP PORT: Sets the UDP port all PC software instances connect to. (default: 10000)
  - ACCESSIBLE FROM: Select the Ethernet interface and the IP address of the MAGIC THipPro Lite, to which the PCs should be allowed to connect.
    - In factory settings PC software clients can access all LAN interfaces.
    - It is recommended to select a specific interface to prevent unauthorized access.
- PRETALK STREAMING UDP PORTS: Configure the local UPD ports for up to 8 audio streams. (default: 5200, 5202, 5204, …)

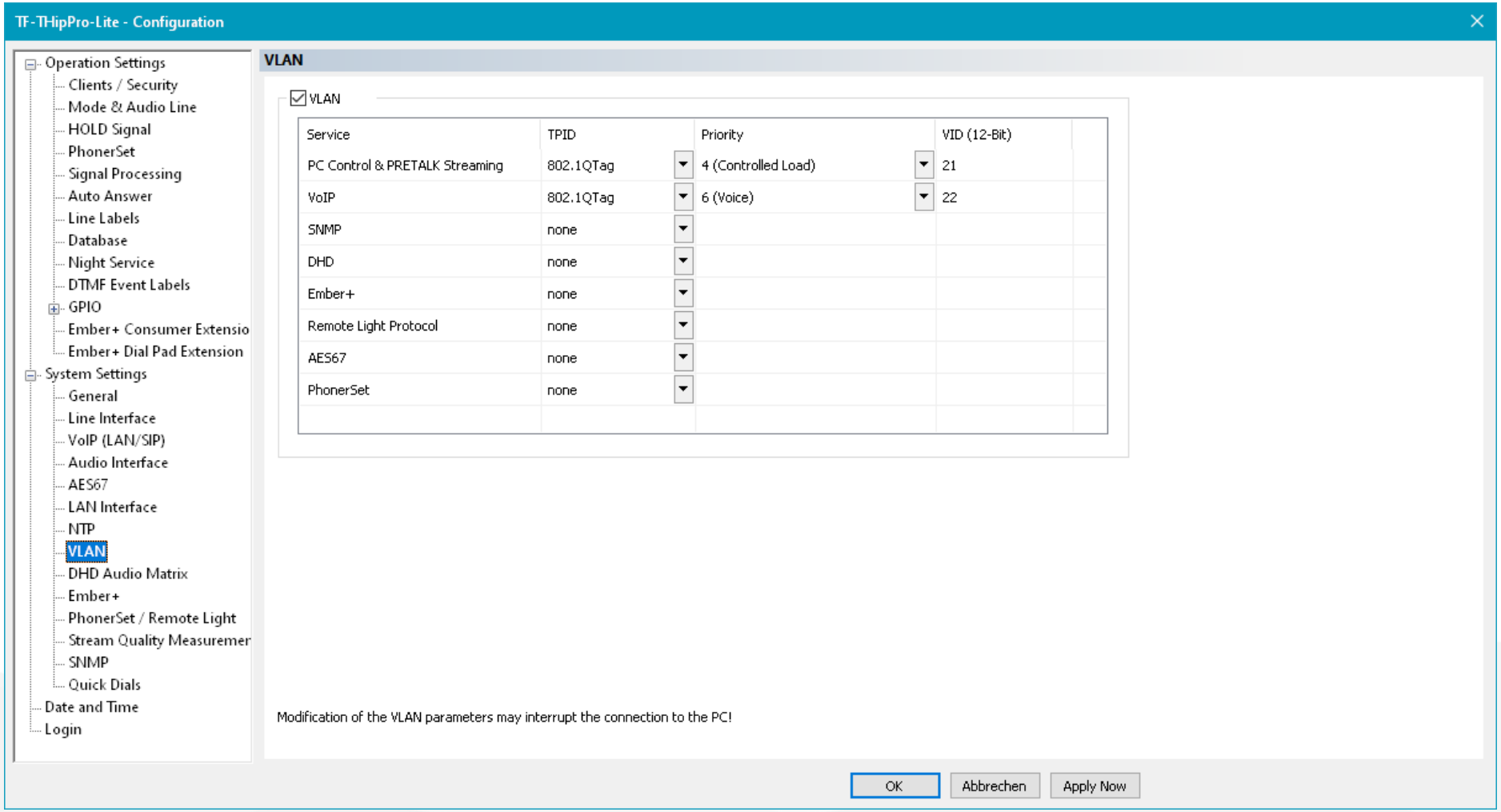
LAN Interface (3)


TF-THipPro-Lite - Configuration
Operation Settings
Clients / Security
Mode & Audio Line
HOLD Signal
PhonerSet
Signal Processing
Auto Answer
Line Labels
Database
Night Service
DTMF Event Labels
GPIO
Ember+ Consumer Extensior
Ember+ Dial Pad Extension
System Settings
General
Line Interface
VoIP (LAN/SIP)
Audio Interface
AES67
LAN Interface
NTP
VLAN
DHD Audio Matrix
Ember+
PhonerSet / Remote Light
Stream Quality Measurement
SNMP
Quick Dials
Date and Time
Login
NTP
Enable NTP
Primary Server (LAN/IP Adr./Port):
LAN 1 : 172.20.30.15
172.20.1.5
123
Alternative Server (LAN/IP Adr./Port):
LAN 1 : 172.20.30.15
123
System Time:
2022-12-09 09:46:33+01:00
OK
Abbrechen
Apply Now

NTP (1)

- Configure the parameters for Network Time Protocol on the NTP configuration page.
- The MAGIC THipPro Lite can synchronise its system time to coordinated universal time (UTC) via NTP.
- The MAGIC THipPro Lite always tries to connect to the PRIMARY SERVER. If that server is not available it will try to retrieve the time information from the ALTERNATIVE SERVER.
  - LAN: Select the LAN interface of the THipPro Lite which has access to the NTP server.
  - IP ADDR: Enter the IP address of the NTP server. The THipPro Lite does not resolve host names of NTP servers.
  - PORT: Enter the server port. NTP normally uses the UDP protocol on port 123.
  - SYSTEM TIME: Displays the current time of the THipPro Lite.

NTP (2)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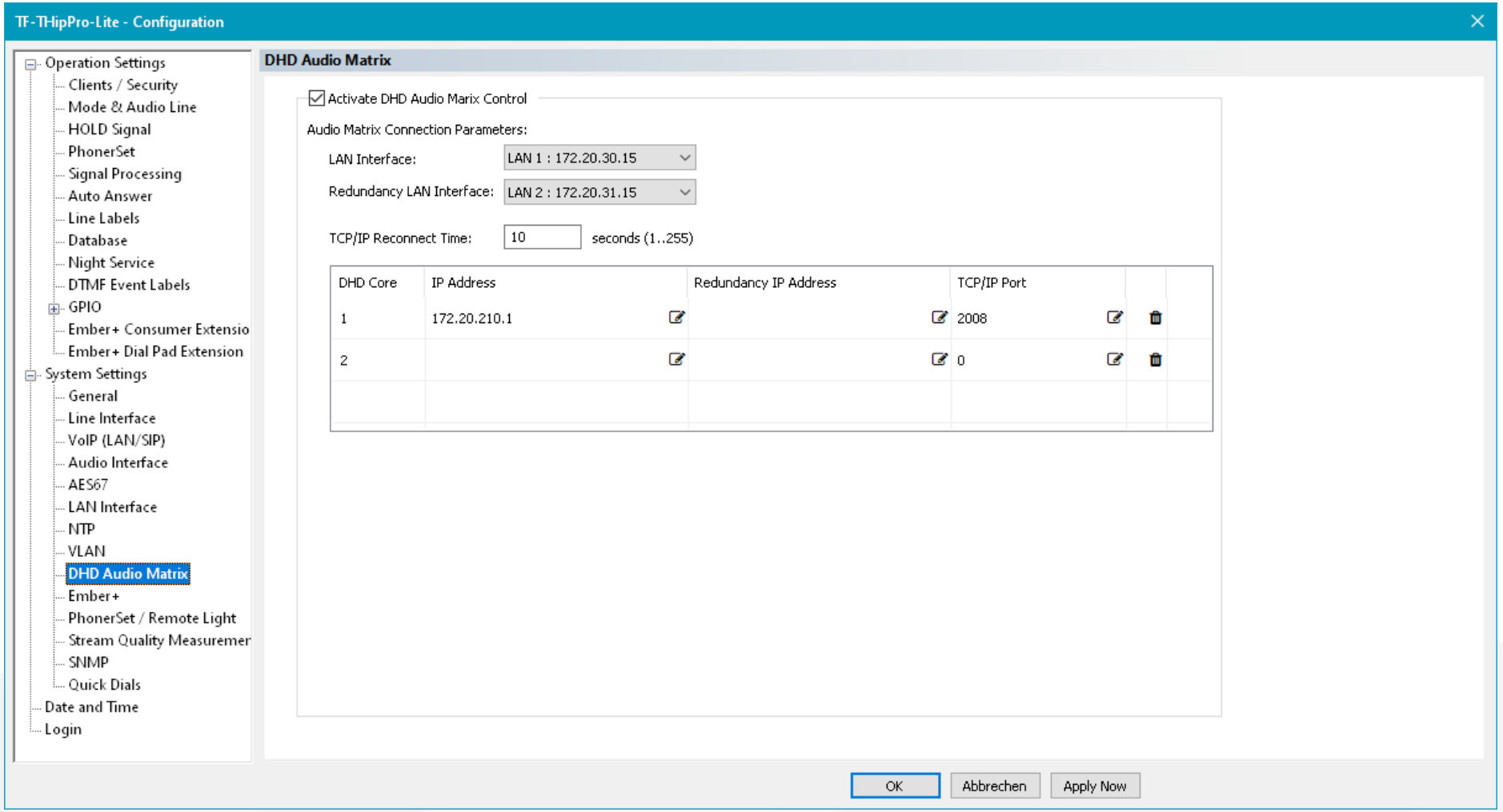
VLAN
VLAN
Service
TPID
Priority
VID (12-Bit)
PC Control & PRETALK Streaming
802.1QTag
4 (Controlled Load)
21
VoIP
802.1QTag
6 (Voice)
22
SNMP
none
DHD
none
Ember+
none
Remote Light Protocol
none
AES67
none
PhonerSet
none
Modification of the VLAN parameters may interrupt the connection to the PC!
OK
Abbrechen
Apply Now

VLAN (1)

- Configure the basic parameters for virtual local area networks on the VLAN page.
  - VLAN: Enable or disable virtual networks globally.
    - SERVICE: All services provided by the MAGIC THipPro Lite which support VLANs are listed here.
    - TPID: Enable or disable VLAN for the specific service:
      - NONE: The service will not carry a VLAN ID and therefor is not part of a VLAN.
      - 802.1QTag: The service will carry a VLAN ID specified in VID and therefore becomes part of that virtual local area network.
    - PRIORITY: Sets a quality of service classification for the service ranging from 0 = lowest priority to 7 = highest priority. It is recommended to set the priority to 6 for services transmitting audio (Pretalk Streaming, VoIP, AES67 and PhonerSet).
    - VID (12-Bit): Sets the VLAN identifier specifying to which VLAN the service belongs. The range is 1-4094.

- Note: Changing the VLAN configuration requires to reconfigure the network switches and routers accordingly. If not done correctly the PC software will lose connection the MAGIC THipPro Lite.
  - VLANs may be enabled or disabled globally on the front display of the THipPro under **Menu > System Settings > VLAN**.

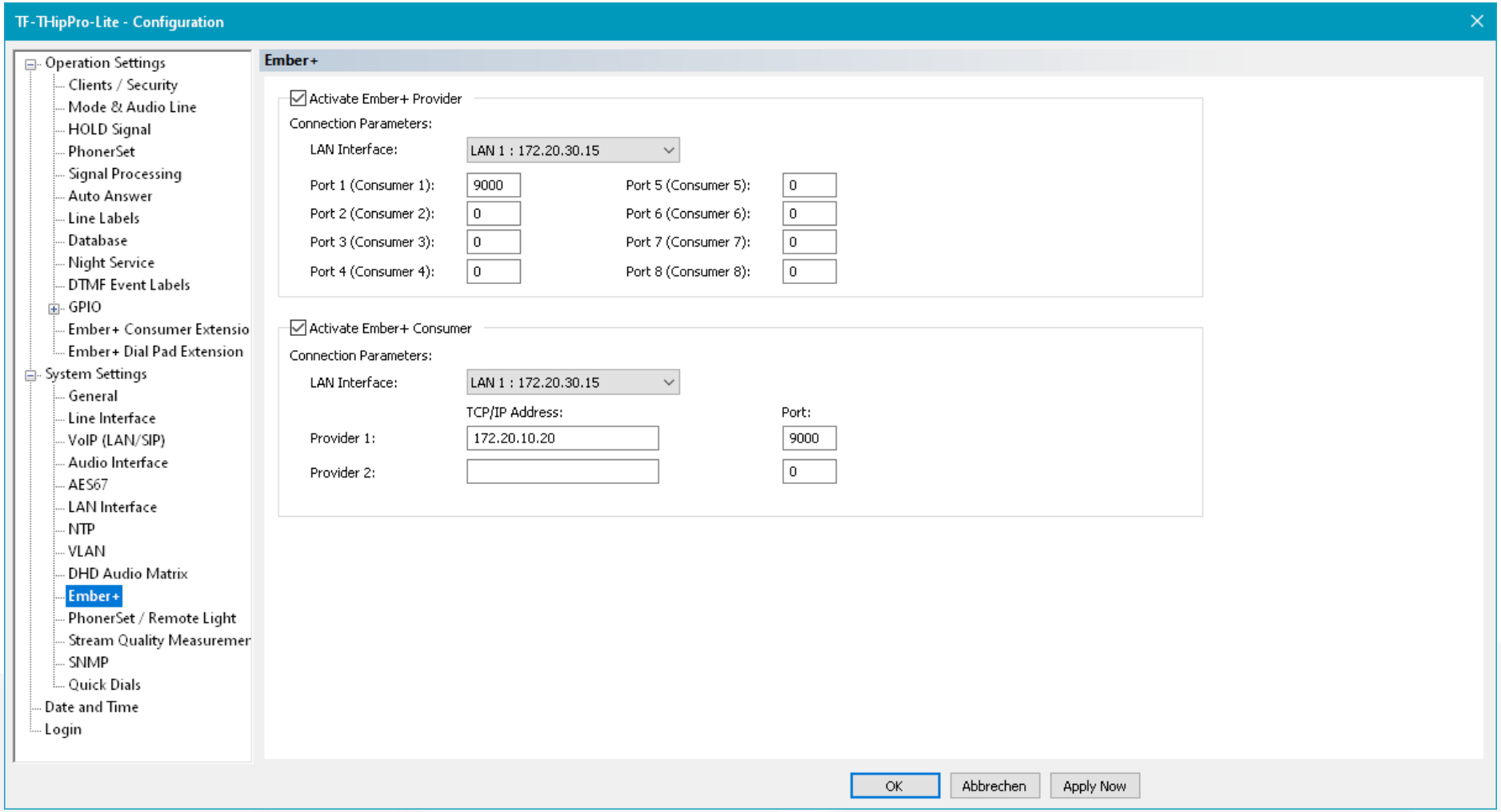
VLAN (2)



DHD AUDIO MATRIX (1)

- Configure the parameters for connecting the MAGIC THipPro Lite to a DHD core on the DHD AUDIO MATRIX page.
- The MAGIC THipPro Lite supports the DHD-ECP (External Control Protocol) to interact with DHD mixing consoles by sending and receiving commands and status information via DHD SetLogic.
- The MAGIC THipPro Lite can connect to up to 2 DHD cores.
- The MAGIC THipPro Lite always tries to connect to the primary IP address of the DHD core. If that is not available it will try to connect to the redundancy IP address of the DHD core.
- ACTIVATE DHD AUDIO MATRIX CONTROL: Enable the DHD communication protocol.
- LAN INTERFACE: Select the LAN interface of the MAGIC THipPro Lite which connects to the DHD cores.
- REDUNDANCY LAN INTERFACE: Select the LAN interface of the MAGIC THipPro Lite which connects to the Redundancy IP Address of the DHD cores.
- TCP/IP RECONNECT TIME: Specifies the time interval between TCP connection requests to a DHD core in seconds. The range is 1 – 255 seconds. (default: 10 seconds)
- DHD CORE: Enter up to 2 DHD cores in the table.
- IP ADDRESS: Enter the IP address of the DHD core.
- REDUNDANCY IP ADDRESS: Enter the redundancy IP address of the DHD core.
- TCP/IP PORT: Enter the port of the DHD-ECP (External Control Protocol) of the DHD core.
- Find more details about controlling the MAGIC THipPro Lite via DHD SetLogic in the Signalling and Control with DHD SetLogic document available in the download section of our website.

DHD AUDIO MATRIX (2)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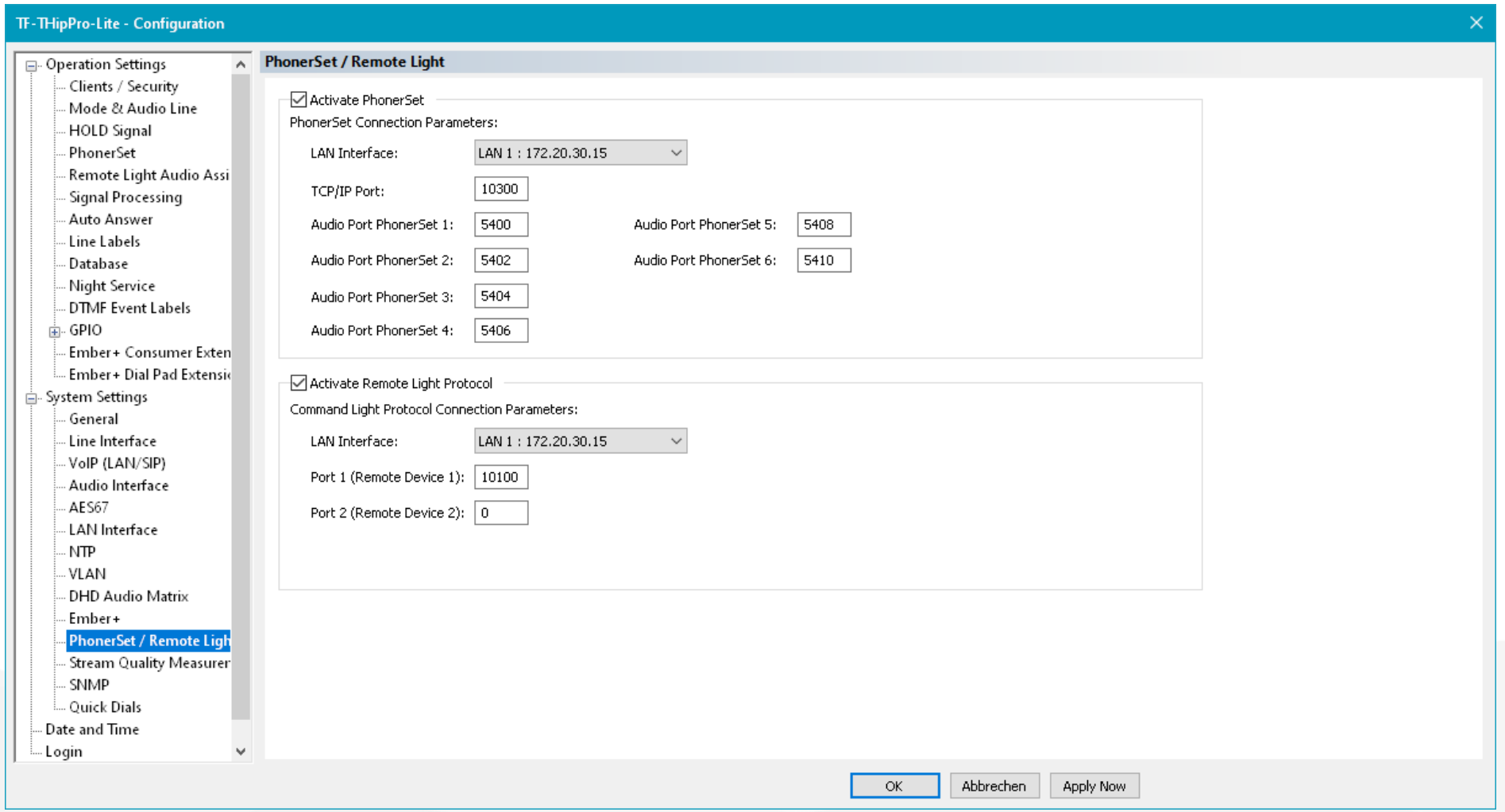
VLAN
DHD Audio Matrix
Ember+
PhonerSet / Remote Light
Stream Quality Measuremer
SNMP
Quick Dials
Date and Time
Login
Ember+
Activate Ember+ Provider
Connection Parameters:
LAN Interface:
LAN 1 : 172.20.30.15
Port 1 (Consumer 1):
9000
Port 2 (Consumer 2):
0
Port 3 (Consumer 3):
0
Port 4 (Consumer 4):
0
Port 5 (Consumer 5):
0
Port 6 (Consumer 6):
0
Port 7 (Consumer 7):
0
Port 8 (Consumer 8):
0
Activate Ember+ Consumer
Connection Parameters:
LAN Interface:
LAN 1 : 172.20.30.15
TCP/IP Address:
Port:
Provider 1:
172.20.10.20
9000
Provider 2:
0
OK
Abbrechen
Apply Now

Ember+ (1)

- Configure the parameters for connecting the MAGIC THipPro Lite to studio equipment supporting Ember+ on the EMBER+ page.
- The MAGIC THipPro Lite supports the Ember+ provider role and the Ember+ consumer role.
- The Ember+ protocol provides ways to send and receive commands and status information.
- ACTIVATE EMBER+ PROVIDER to let up to 8 Ember+ consumers connect to the MAGIC THipPro Lite.
  - LAN INTERFACE: Select the LAN interface of the MAGIC THipPro Lite to which the Ember+ consumers connect.
  - PORT N (CONSUMER N): Enter a port for each consumer. (default: 9000, 9001, 9002, …)

- ACTIVATE EMBER+ CONSUMER to connect the MAGIC THipPro Lite to one or two Ember+ providers.
  - Enabling the Ember+ consumer is also required for the Ember+ Consumer Extension.
  - LAN INTERFACE: Select the LAN interface of the MAGIC THipPro Lite used to connect to Ember+ providers.
  - TCP/IP ADDRESS: Enter the IP address of the provider.
  - PORT: Enter a port for each provider the MAGIC THipPro Lite should connect to. (default: 9000, 9001)
- Find more information in the Signalling and Control with EmBER+ document available in the download section of our website.

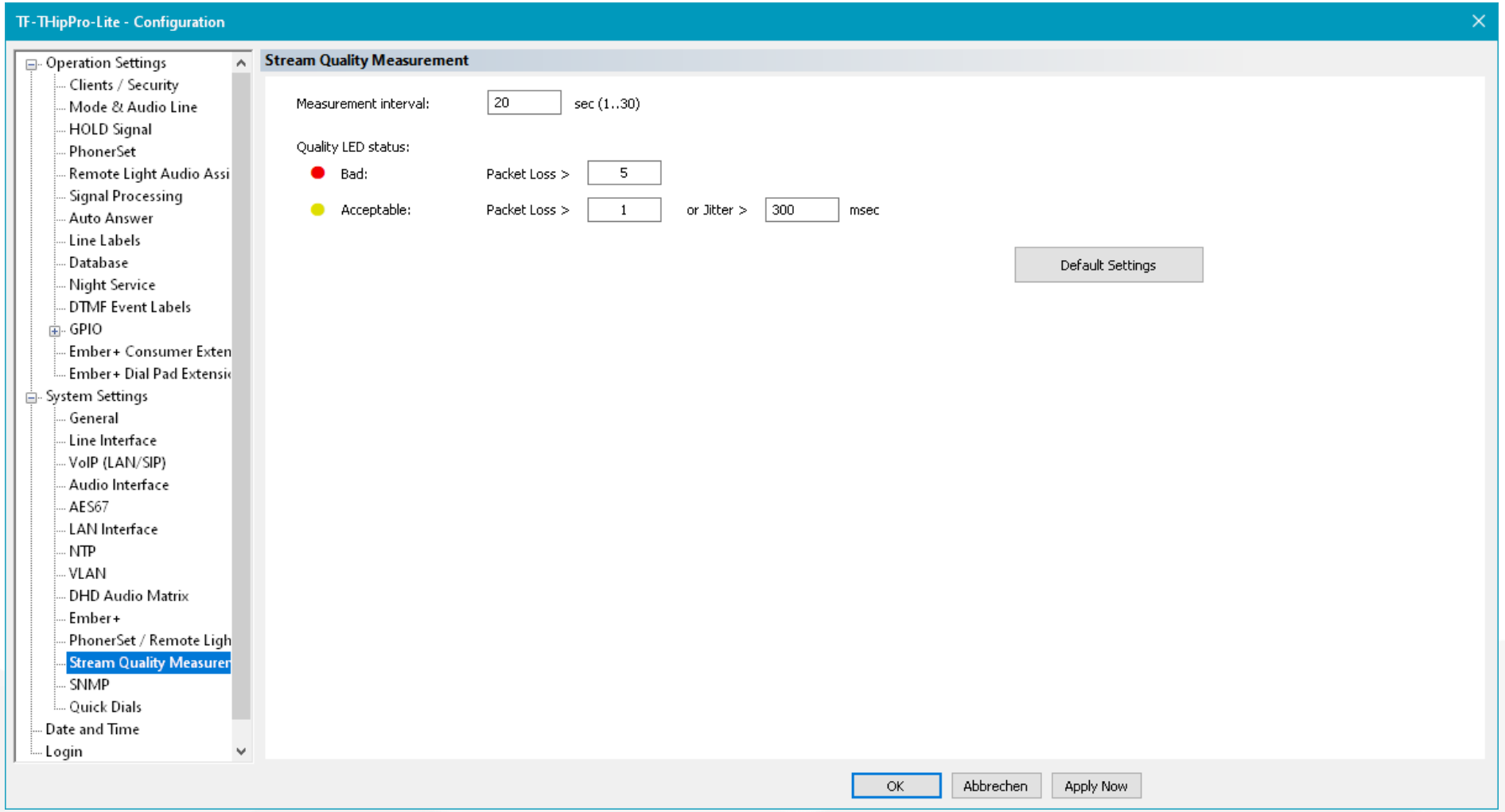
Ember+ (2)



PhonerSet / Remote Light (1)

- Configure the parameters for connecting PhonerSet or Remote Light controllers to the MAGIC THipPro Lite on the PHONERSET / REMOTE LIGHT page.
- ACTIVATE PHONERSET: Enables the PhonerSet module.
  - PhonerSet is an app for the touchscreen equipped Grandstream desk phones GXV3350, GXV3370 and GXV3380. The phones can be used for pretalk and for putting calls in HOLD or ON AIR.
  - The PhonerSet app can control up to 8 MAGIC THipPro Lite telephone lines.
  - Up to 6 PhonerSets may be connected to MAGIC THipPro Lite.
  - LAN INTERFACE: Select the LAN interface of the MAGIC THipPro Lite to which the PhonerSet phones connect.
  - TCP/IP PORT: Enter the local port to which the PhonerSet phones connect. (default: 10300)
  - AUDIO PORT: Each PhonerSet phone establishes an audio stream to the MAGIC THipPro Lite for pretalk. Enter a unique port for each PhonerSet phone. (default: 5400, 5402 , 5404 , 5406 , 5408 , 5410, 5412, 5414)
  - Find more information in the MAGIC PhonerSet document available in the download section of our website.
- ACTIVATE REMOTE LIGHT PROTOCOL: Enables the Remote Light protocol module.
  - Remote Light is a very simple IP based protocol to control the telephone lines of a MAGIC THipPro Lite. Contact us for the Remote Light Protocol specification.
  - LAN INTERFACE: Select the LAN interface of the MAGIC THipPro Lite to which the Remote Light Clients connect.
  - TCP/IP PORT: Enter a local port for each Remote Light Client which should connect to the MAGIC THipPro Lite. (default: 10100, 101001, 10102, …)

PhonerSet / Remote Light (2)

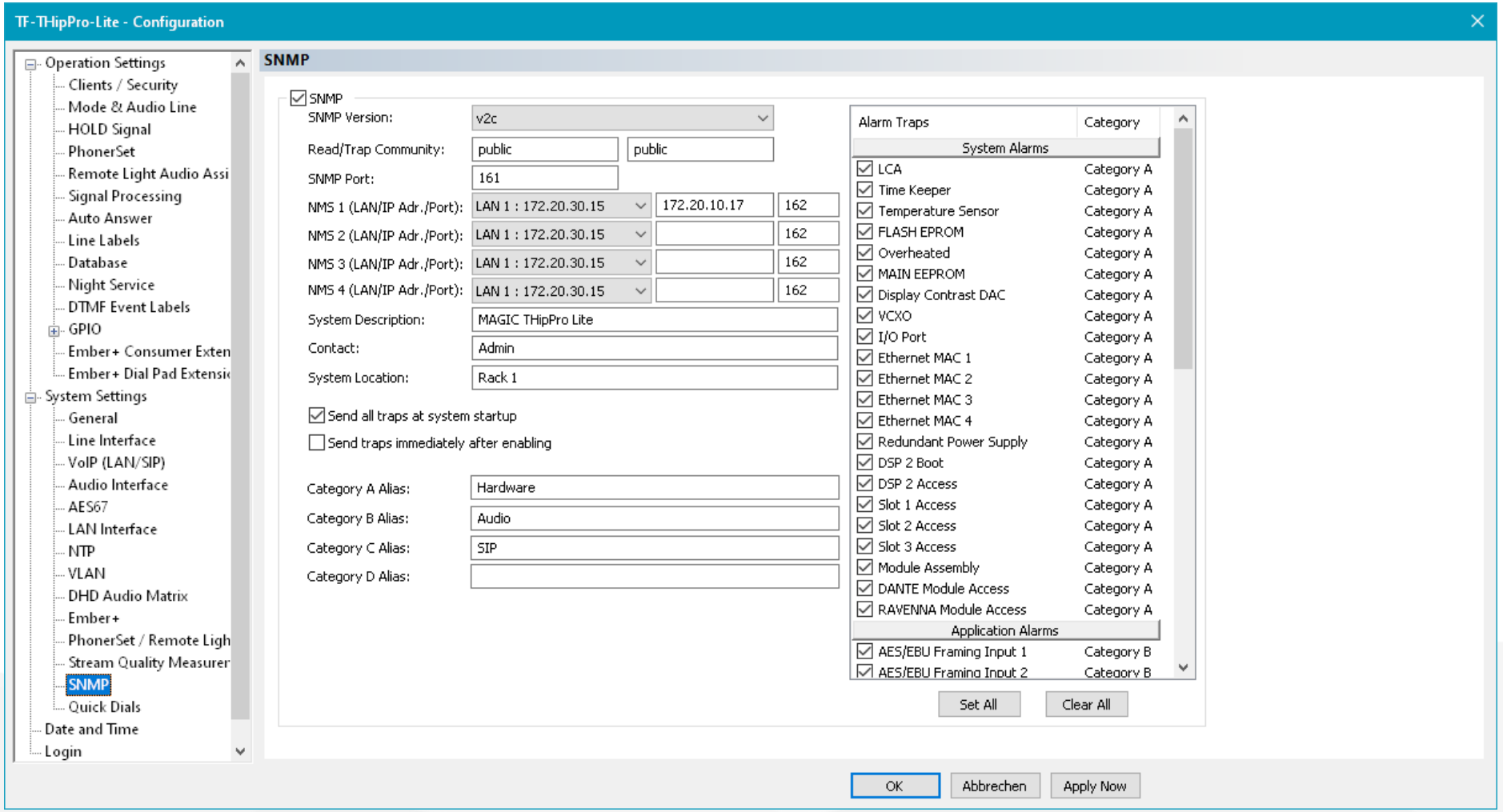


Stream Quality Measurement (1)

- Configure the parameters for the stream quality indication on the PC software clients on the STREAM QUALITY MEASUREMENT configuration page.
- The stream quality of a received audio stream during a telephone connection is displayed by a little LED next to the level meters in the PC software.
  - 🟢: The stream quality is good
  - 🟠: The stream quality is acceptable
  - 🔴: The stream quality is bad
- MEASUREMENT INTERVAL: The MAGIC THipPro Lite counts the number of lost packet and stores the maximum jitter that appeared within that time interval. The first indication of stream quality after a call is established can be displayed when the first measurement interval is over. A short interval leads to faster results.

- The thresholds for the status LEDs can be configured under QUALITY LED STATUS.
  - PACKET LOSS >: Define the number of packet losses within the measurement interval that will make the LED switch to the respective quality level.
  - JITTER >: Define the maximum jitter within the measurement interval that will make the LED switch to the respective quality level.

Stream Quality Measurement (2)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DTMF Event Labels
GPIO
Ember+ Consumer Exten
Ember+ Dial Pad Extensi
System Settings
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VoIP (LAN/SIP)
Audio Interface
AES67
LAN Interface
NTP
VLAN
DHD Audio Matrix
Ember+
PhonerSet / Remote Ligh
Stream Quality Measurer
SNMP
Quick Dials
Date and Time
Login
SNMP
SNMP
SNMP Version: v2c
Read/Trap Community: public public
SNMP Port: 161
NMS 1 (LAN/IP Adr./Port): LAN 1 : 172.20.30.15 172.20.10.17 162
NMS 2 (LAN/IP Adr./Port): LAN 1 : 172.20.30.15 162
NMS 3 (LAN/IP Adr./Port): LAN 1 : 172.20.30.15 162
NMS 4 (LAN/IP Adr./Port): LAN 1 : 172.20.30.15 162
System Description: MAGIC THipPro Lite
Contact: Admin
System Location: Rack 1
Send all traps at system startup
Send traps immediately after enabling
Category A Alias: Hardware
Category B Alias: Audio
Category C Alias: SIP
Category D Alias:
Alarm Traps
Category
System Alarms
LCA Category A
Time Keeper Category A
Temperature Sensor Category A
FLASH EPROM Category A
Overheated Category A
MAIN EEPROM Category A
Display Contrast DAC Category A
VCXO Category A
I/O Port Category A
Ethernet MAC 1 Category A
Ethernet MAC 2 Category A
Ethernet MAC 3 Category A
Ethernet MAC 4 Category A
Redundant Power Supply Category A
DSP 2 Boot Category A
DSP 2 Access Category A
Slot 1 Access Category A
Slot 2 Access Category A
Slot 3 Access Category A
Module Assembly Category A
DANTE Module Access Category A
RAVENNA Module Access Category A
Application Alarms
AES/EBU Framing Input 1 Category B
AES/EBU Framing Input 2 Category B
Set All
Clear All
OK
Abbrechen
Apply Now

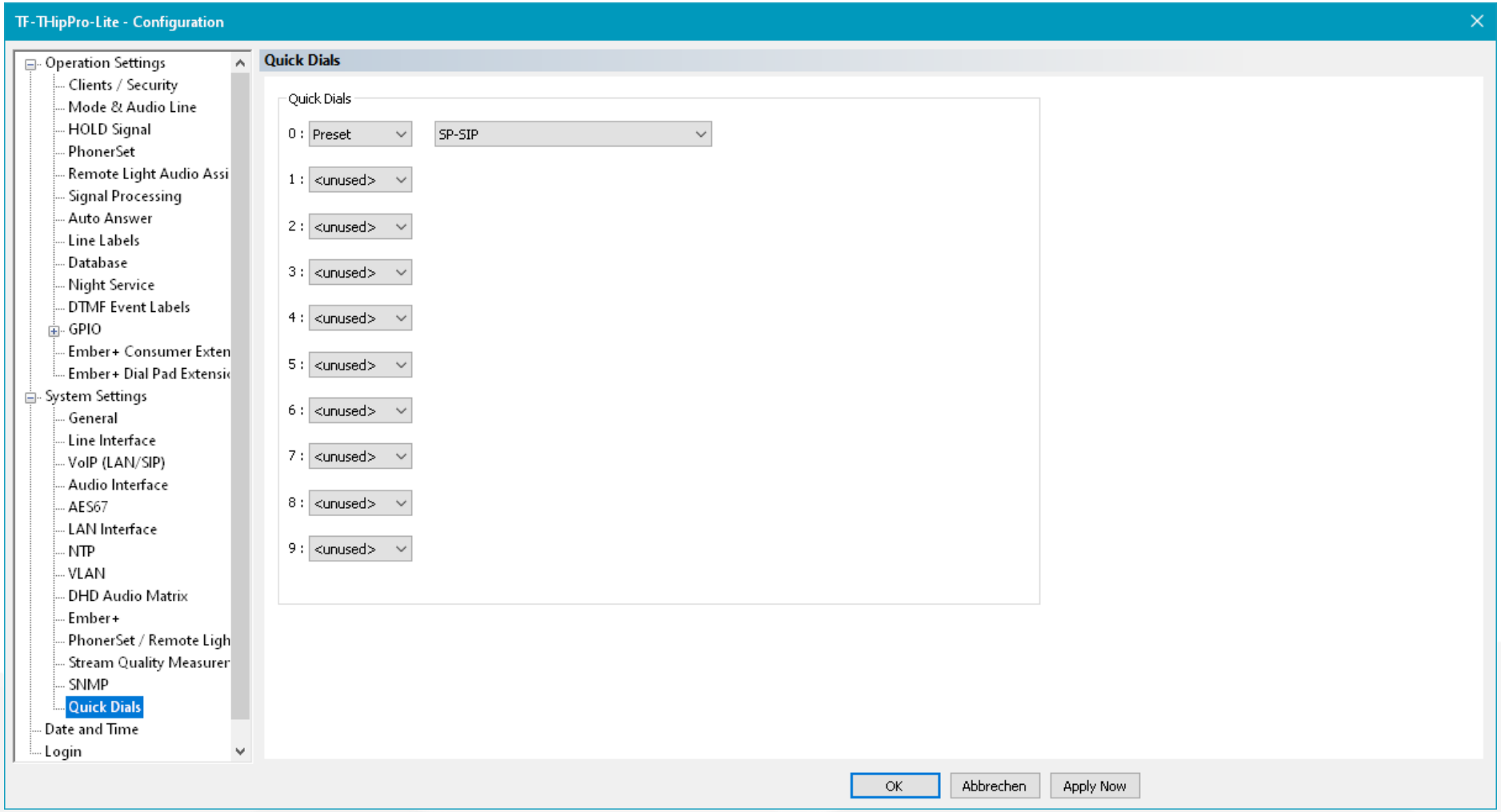
SNMP (1)

- Configure the parameters for connecting the MAGIC THipPro Lite to a network management system on the SNMP configuration page.
- MAGIC THipPro Lite parameters exposed through SNMP are read-only.
- The MAGIC THipPro Lite responds to Get-requests and sends traps.
- SNMP VERSION: Select the SNMP version. MAGIC THipPro Lite supports SNMPv1 and SNMPv2c.
- READ / TRAP COMMUNITY: Enter a string for the READ community and a string for the TRAP community. Communities are used to authenticate the device with the network management system.
- SNMP PORT: Specify the local UDP port for receiving SNMP requests and sending SNMP responses. The remote port is derived from received SNMP requests. (default: 161)
- NMS 1-4: Specify up to four network management stations to receive traps.
  - LAN: Select the LAN interface of the MAGIC THipPro Lite which is used to send SNMP traps.
  - IP ADDR: Specify the IP address of the network management station.
  - PORT: Specify the UDP port of the Trap receiver of the network management station. (default: 162)
- SYSTEM DESCRIPTION: Enter a string describing this particular MAGIC THipPro Lite. This string is part of the standard MIB.
- CONTACT: Enter a string with information about who is responsible for the MAGIC THipPro Lite. This string is part of the standard MIB.
- SYSTEM LOCATION: Enter a string describing where the MAGIC THipPro Lite is located. This string is part of the standard MIB.

SNMP (2)

- SEND ALL TRAPS AT SYSTEM STARTUP: Enable this option to send all traps when the MAGIC THipPro Lite has finished booting.
- SEND TRAPS IMMEDIATELY AFTER ENABLING: Enable to send a trap immediately after it was enabled in the configuration.
- CATEGORY A-D ALIAS: Each Trap may be assigned to a category. Enter strings to describe the categories. The strings can be read by the network management station.
- ALARM TRAPS: All available traps are listed in this table.
  - Select all traps which should be sent to the network management station.
  - Click into the CATEGORY column to assign a trap to a category.
  - There are four categories. To decrease the number of traps to send, assign several alarms to a category and select only the category trap at the end of the list.
  - Find more information about the alarms in the SYSTEM MONITOR section of this document.
  - Additional Traps:
    - AUTHENTICATION FAILURE: A request used an unknown community string.
    - COLD START: The SNMP agent is reinitialising.
- Note: Find the MIB files in the MIB folder inside the installation directory of the MAGIC THipPro Lite PC software.

SNMP (3)



Quick Dials (1)

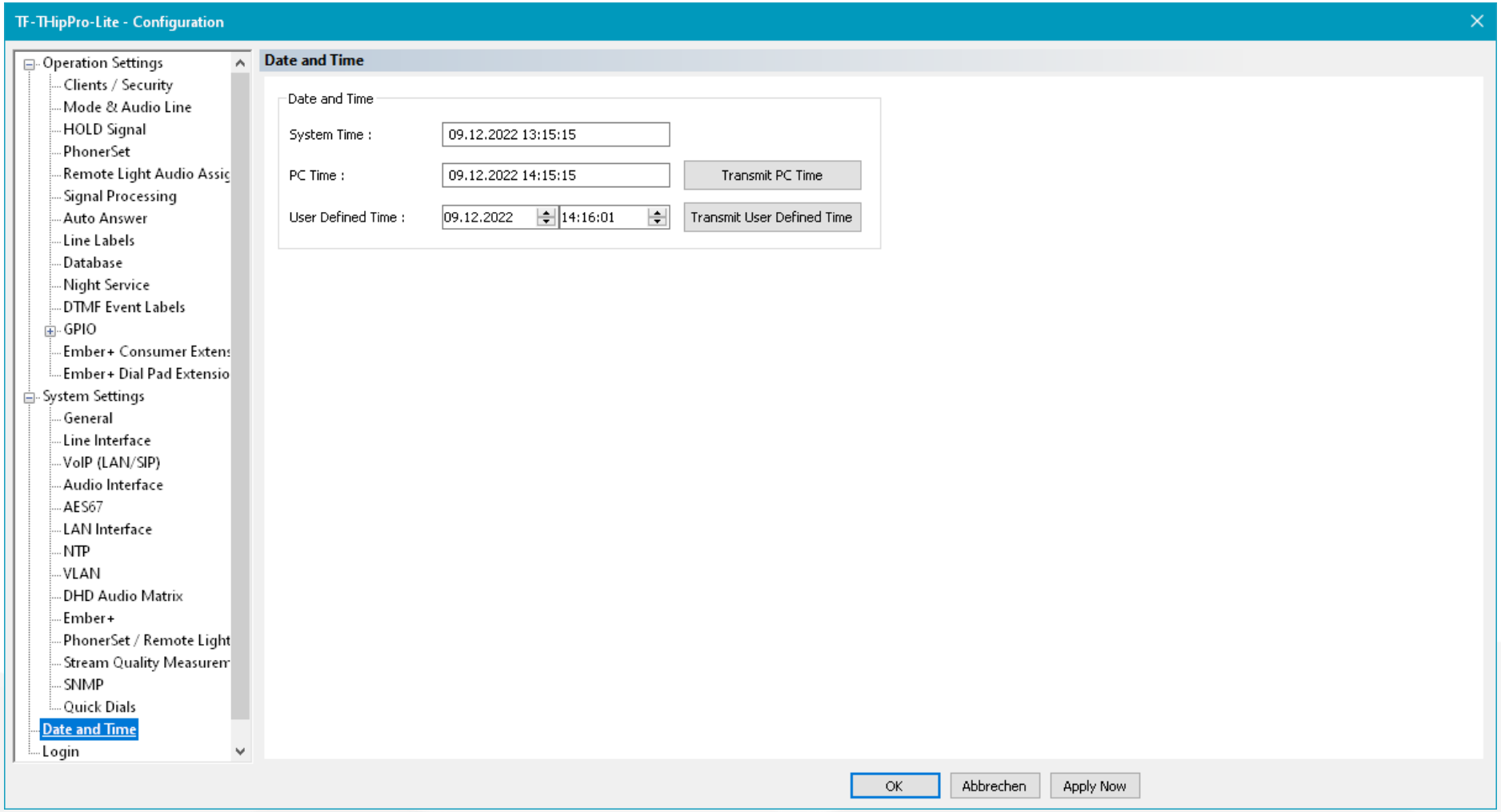
- Configure quick dials for loading presets via the front keypad of the MAGIC THipPro Lite on the QUICK DIALS configuration page.
- Long press a button on the front keypad of the MAGIC THipPro Lite to load the specified Preset.

Quick Dials (2)

MAGIC THipPro Lite

Daten and Time
Login

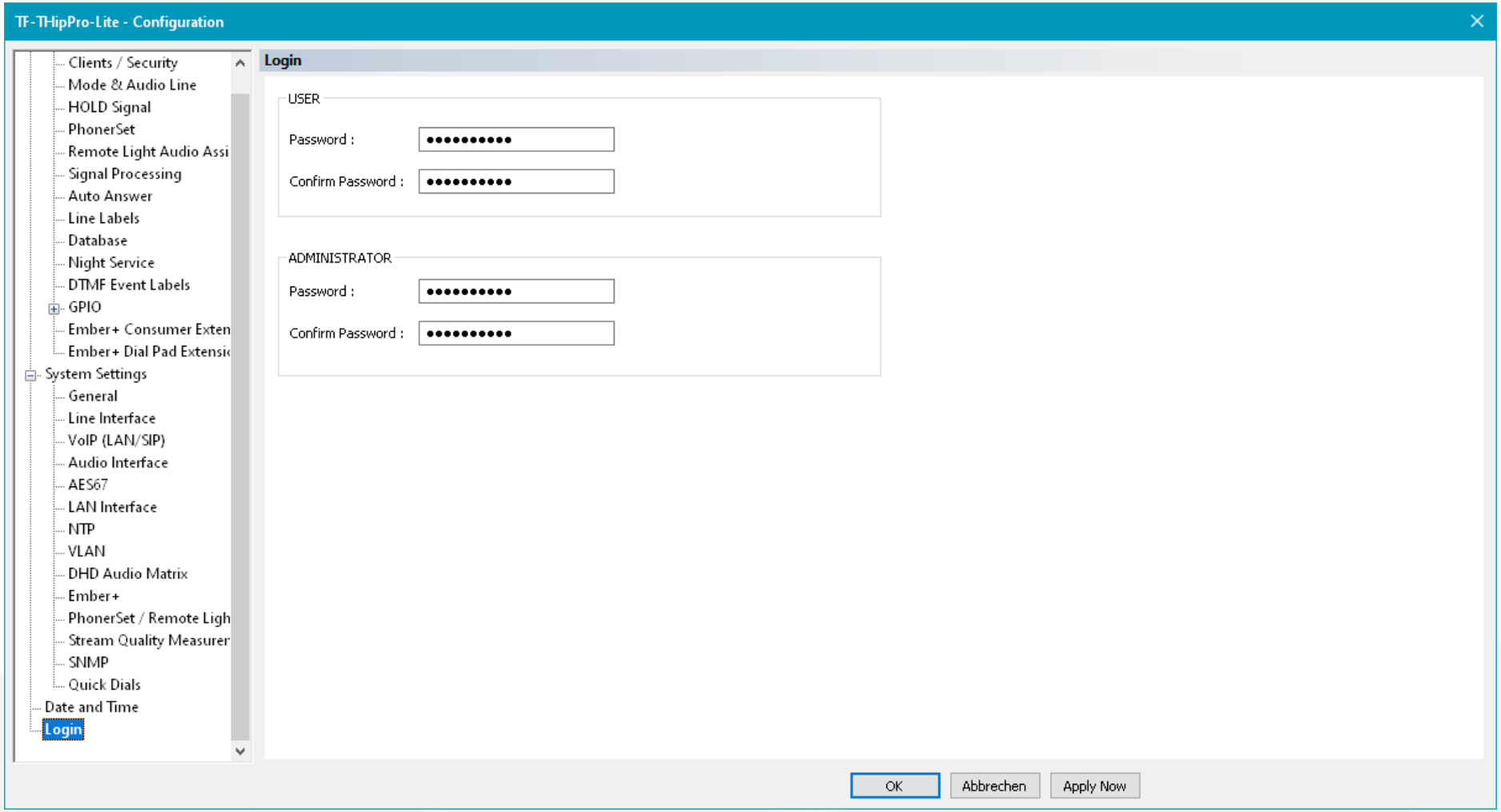
info@avt-nbg.de
www.avt-nbg.de



Date and Time (1)

- In an NTP server is not available you may set the internal clock of the MAGIC THipPro Lite on the DATE AND TIME configuration page.

Date and Time (2)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Audio Interface
AES67
LAN Interface
NTP
VLAN
DHD Audio Matrix
Ember+
PhonerSet / Remote Ligh
Stream Quality Measurer
SNMP
Quick Dials
Date and Time
Login
Login
USER
Password :
Confirm Password :
ADMINISTRATOR
Password :
Confirm Password :
OK
Abbrechen
Apply Now

Login (1)

- Protect the configuration of the MAGIC THipPro Lite from unauthorized access via passwords. Configure the passwords on the LOGIN configuration page.
- There are two levels of privileges:
  - ADMINISTRATOR: Specify an administrator password to restrict
    - displaying and changing the configuration.
    - importing configurations.
    - managing presets.
    - opening the system panel.
    - accessing the file system.
    - updating the firmware.
    - resetting to factory settings.
  - USER: Specify a user password to restrict loading presets.

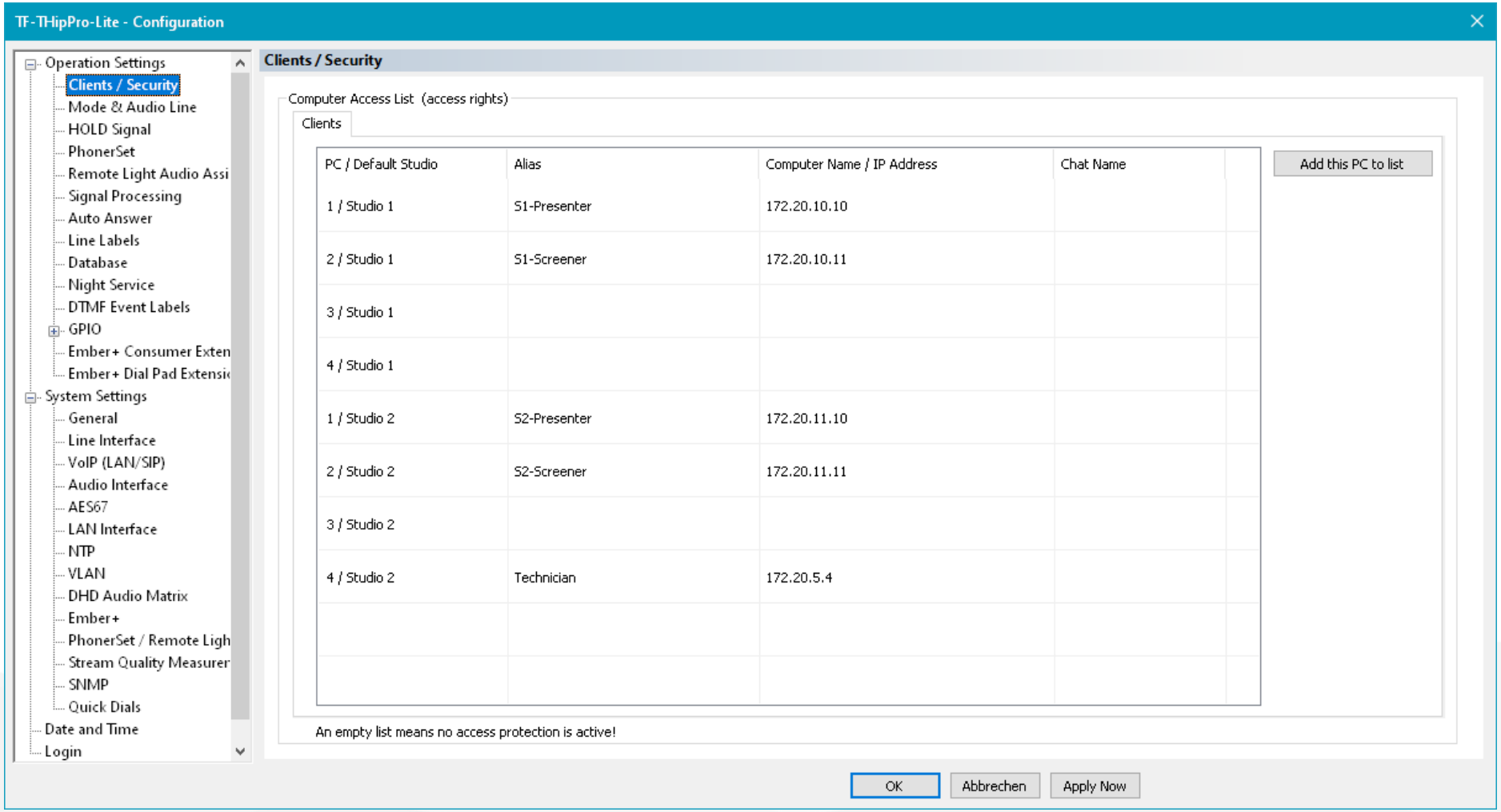
- Note: If you forgot your password, you need to reset the MAGIC THipPro Lite to factory settings.
- Note: The local configuration on the PC is protected via operating system privileges. See SETTINGS LOCATION in the Local Configuration.

Login (2)

MAGIC THipPro Lite

Operation Settings

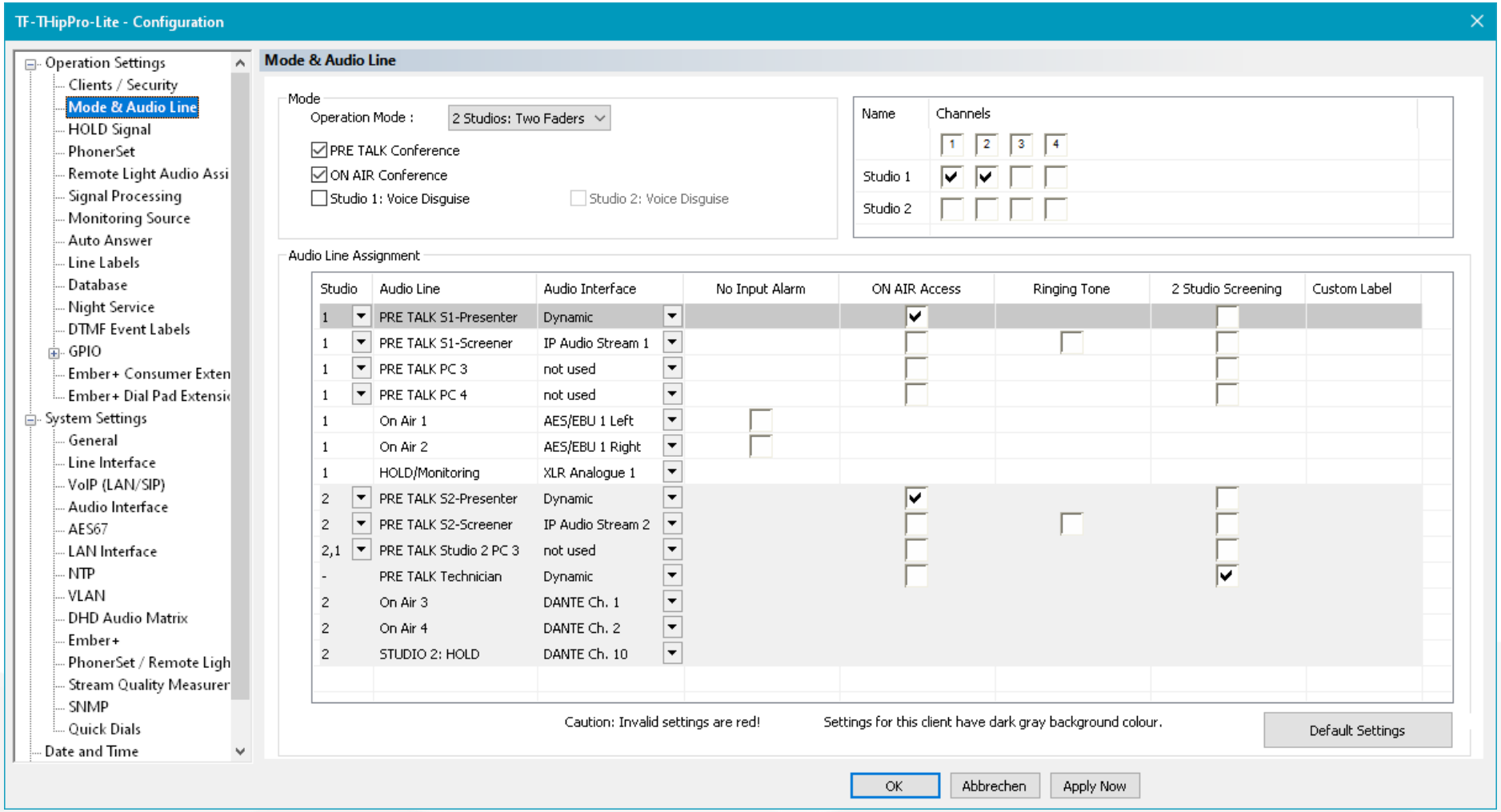
info@avt-nbg.de
www.avt-nbg.de



Clients / Security (1)

- Manage connected PC clients on the CLIENTS / SECURITY page.
- Only Clients specified in this list are permitted to connect to the unit. Other clients are required to enter the administrator login password. If no password is configured on the LOGIN configuration page, access is granted to any PC.
- It is necessary to add the PC clients to the lists to be able to assign PRETALK, HOLD and ON AIR audio lines to them.
- CLIENTS: Enter all PCs running the MAGIC THipPro Lite PC software to the list.
  - PC/DEFAULT STUDIO: Represents the internal ID of a client. The default studio is displayed if a “2 Studios” mode is selected on the Mode & Audio Line configuration page.
  - ALIAS: A label for the client to easily identify the client on other configuration pages with client specific settings.
  - COMPUTER NAME / IP ADDRESS: A client is identified by the system by its Windows device name or by its IP address used to connect to the system.
  - CHAT NAME: Enter a name which is used in the built-in chat window. If the chat name is empty, the ALIAS is used.
- ADD THIS PC TO LIST: Adds the Windows device name of the PC currently used for configuration to the list. Only applicable if the PC is not yet in the list.

Clients / Security (2)



Mode & Audio Line (1)

- Set the operation mode, assign telephone lines to studios and assign audio interfaces to PC clients on the MODE & AUDIO LINE page.
- All audio interfaces are mono.
- Input and output of an audio interface cannot be separated.
- OPERATION MODE: Define the number of studios and number of ON AIR faders available on the mixing consoles here.
  - 1 STUDIO: All clients see the same telephone lines.
  - 2 STUDIOS: The telephone lines of the MAGIC THipPro Lite can be split between two studios. By default, the PC clients 1-4 see the first studio. The PC clients 5-8 see the second studio.
  - ONE FADER: There is only one fader for all telephone lines of the studio on the mixing console. If multiple calls are ON AIR, they are mixed in the MAGIC THipPro Lite.
  - TWO FADERS: There are two faders for all telephone lines of the studio on the mixing console. The user can decide for each call which fader to use. If multiple calls are ON AIR, they are mixed in the MAGIC THipPro Lite.
  - EIGHT FADERS: There is one fader for each telephone line on the mixing console.
- PRETALK CONFERENCE: Enable this option if a user should be able to put multiple callers in Pretalk simultaneously. The audio signals are mixed in the MAGIC THipPro Lite.
- ON AIR CONFERENCE: Enable this option if a user should be able to put multiple callers On Air on the same fader simultaneously. The audio signals are mixed in the MAGIC THipPro Lite.

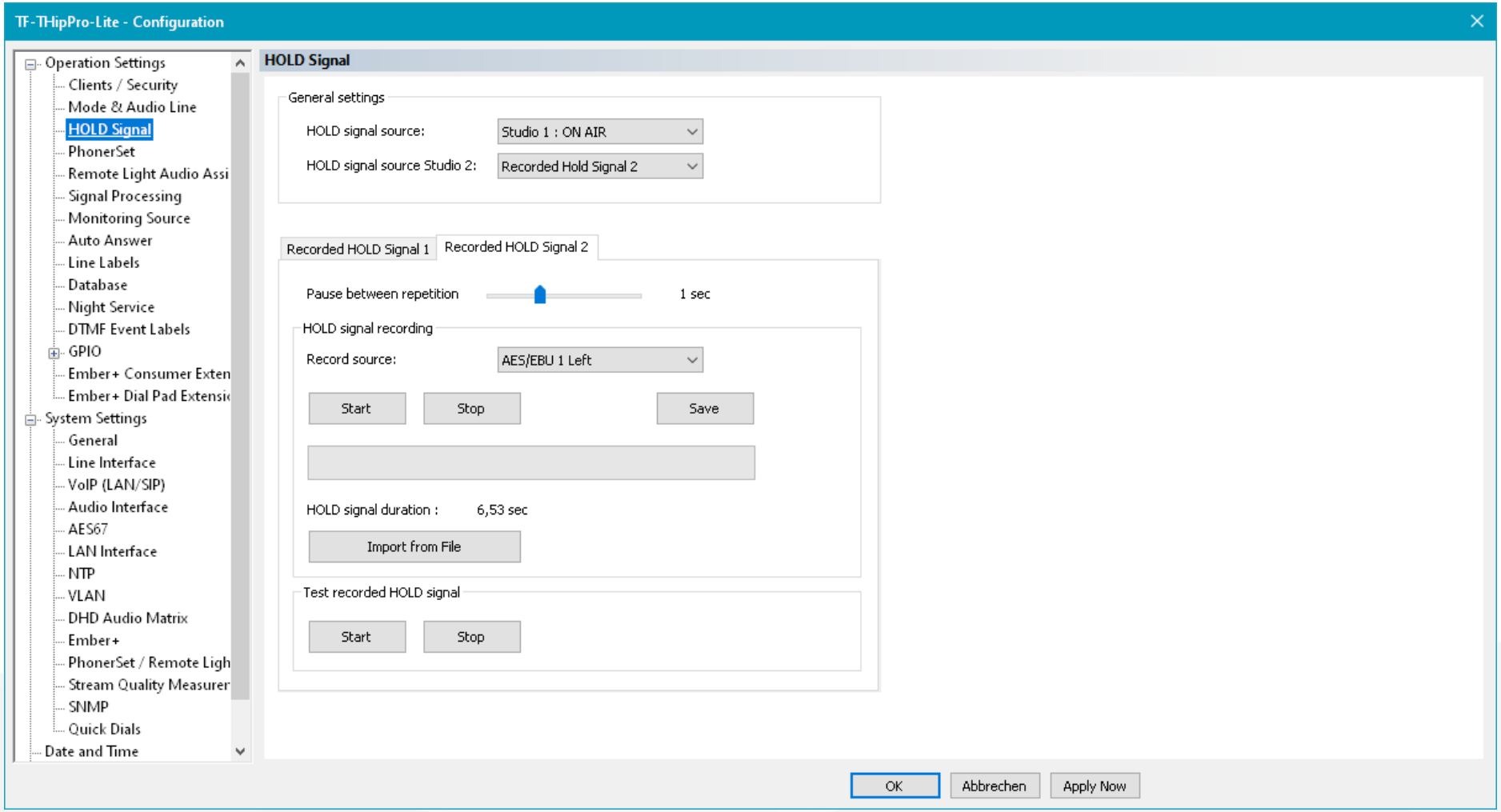
Mode & Audio Line (2)

- ON AIR SHARING: By default a line which is ON AIR can only be operated by the client who put it ON AIR. Enable this option if other clients should be able to operate the line as well.
- STUDIO N VOICE DISGUISE: If enabled, the voice of all callers to that studio is disguised. The strength of that effect can be configured on the SIGNAL PROCESSING configuration page.
- CHANNEL ASSIGNMENT: Assign telephone lines to the available studios. Channels can be exclusive to one studio or shared by two studios.
- AUDIO LINE ASSIGNMENT: Define which audio interfaces are used for ON AIR, HOLD, and PRETALK. As well as client or audio interface specific settings.
  - STUDIO: Select which studio a client can use. The default studio is determined by the position of the client in the CLIENTS / SECURITY list. Access to the other studio can be granted optionally.
- AUDIO LINE: Displays the name of the audio line.
  - PRETALK <client>: The PRETALK audio line of the <client>.
  - ON AIR N: An ON-AIR audio line which is usually connected to a fader of the mixing console.
  - HOLD / MONITORING:
    - The input audio signal can be used as the HOLD signal for all lines of the studio. Further configuration is necessary on the HOLD SIGNAL configuration page.
    - The output audio signal can be used to monitor audio signals of the MAGIC THipPro Lite. Further configuration is necessary on the MONITORING SOURCE configuration page.
- AUDIO INTERFACE: Assign an audio interface to each audio line.
- NO INPUT ALARM: The MAGIC THipPro Lite can detect if a signal is present on the AES3/EBU inputs. If not, an alarm is displayed in the PC software. The alarm can be deactivated here.

Mode & Audio Line (3)

- ON AIR ACCESS: Enable, if the client is allowed to put a call ON AIR.
- RINGING TONE: Enable, if the audio interface assigned to that client should play a ringtone if there is an incoming call.
- 2 STUDIO SCREENING: Enable to have the telephone lines of studio 1 and studio 2 displayed on that client.
- CUSTOM LABEL: Define a custom label for the PRETALK, HOLD and ON AIR buttons on the PC client software here. The font settings of the HOLD button also apply to the DROP button.

Mode & Audio Line (4)



HOLD Signal (1)

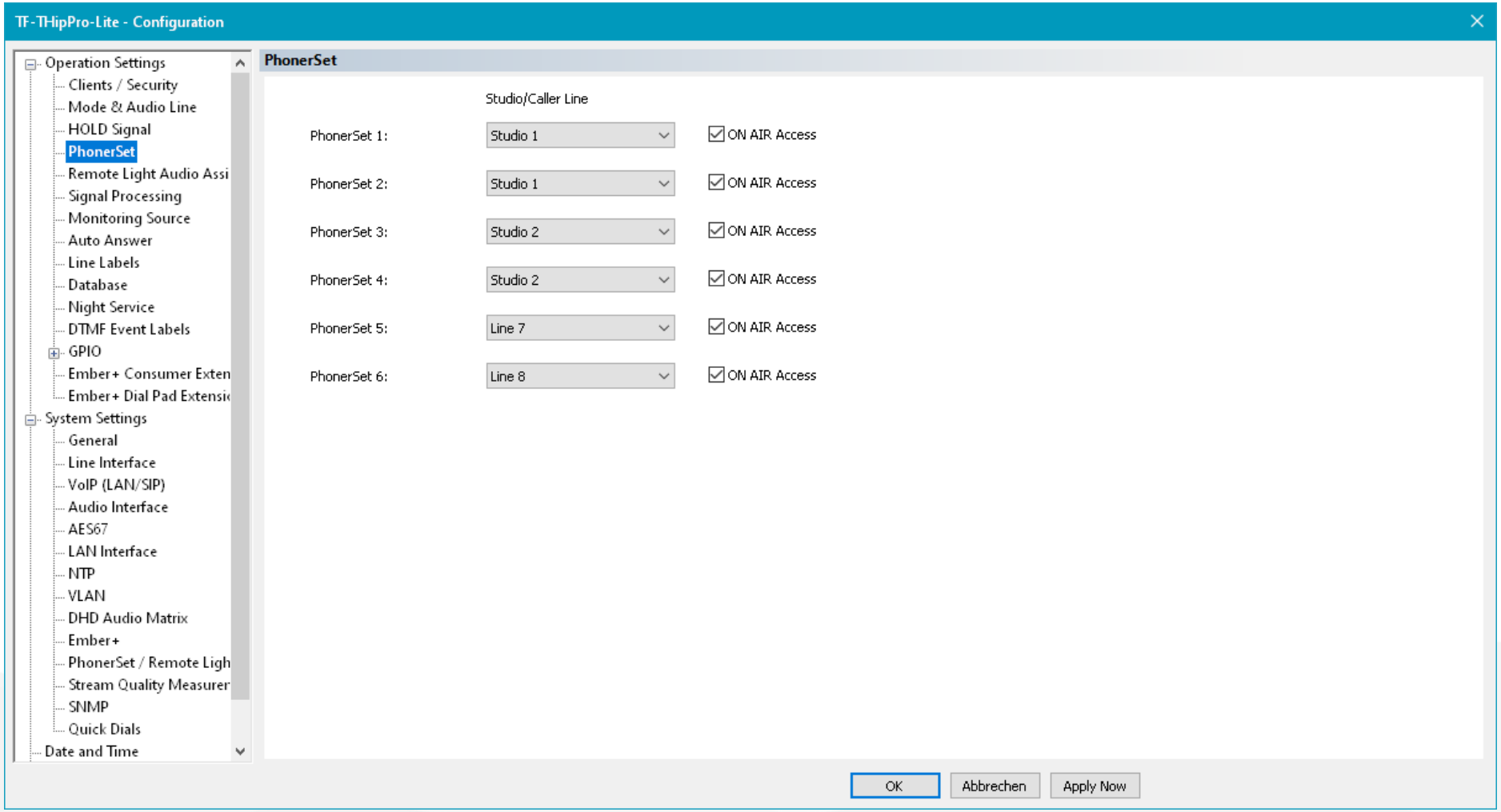
- Manage HOLD signals for both studios on the HOLD SIGNALS page.
- The HOLD signal is transmitted to the caller when the HOLD button on the main panel of the PC software is pressed.
- Three types of HOLD signals are available for each studio:
  - ON AIR: The audio signal of the audio input assigned to On Air 1 on the MODE & AUDIO LINE page is used.
  - AUDIO INTERFACE: The audio signal of the audio input which is assigned to HOLD / MONITORING on the MODE & AUDIO LINE configuration page is used.
  - RECORDED HOLD SIGNAL: An audio signal stored in the internal memory of the MAGIC THipPro Lite is used.
    - The MAGIC THipPro Lite provides two slots for audio files being up to 16 seconds long.
- If a channel is shared between studios, the hold signal to be used depends on the active studio displayed on the PC software.

- RECORDED HOLD SIGNAL N: Manage the internally stored Hold signals here.
  - Select the recorded Hold signal of a studio via the tab at the top.
  - PAUSE BETWEEN REPETITION: Set the pause between repetitions of the recorded Hold signal during playback.
  - RECORD SOURCE: Select an audio interface of the MAGIC THipPro Lite. You can choose from:
    - All Handset interfaces
    - All Analogue Audio interfaces
    - All AES/EBU channels
    - All AES67 / Ravenna / Dante channels
  - START: Starts recording.
  - STOP: Stops recording
  - SAVE: Stores the file on the MAGIC THipPro Lite.
  - PROGRESS BAR: Shows the length of the Hold signal being recorded.
  - HOLD SIGNAL DURATION: Shows the length of the current Hold signal file.

HOLD Signal (2)

- IMPORT FROM FILE: You may import an audio file. Only the first 16 seconds of the audio file are imported. The import module supports WAVE and MP3 audio files. They are automatically converted to a mono file with 16 kHz sampling frequency.
- TEST RECORDED HOLD SIGNAL: Plays back the Hold signal on the audio interface selected under RECORD SOURCE.
  - START: Plays back the Hold signal.
  - STOP: Stops playback of the Hold signal

HOLD Signal (3)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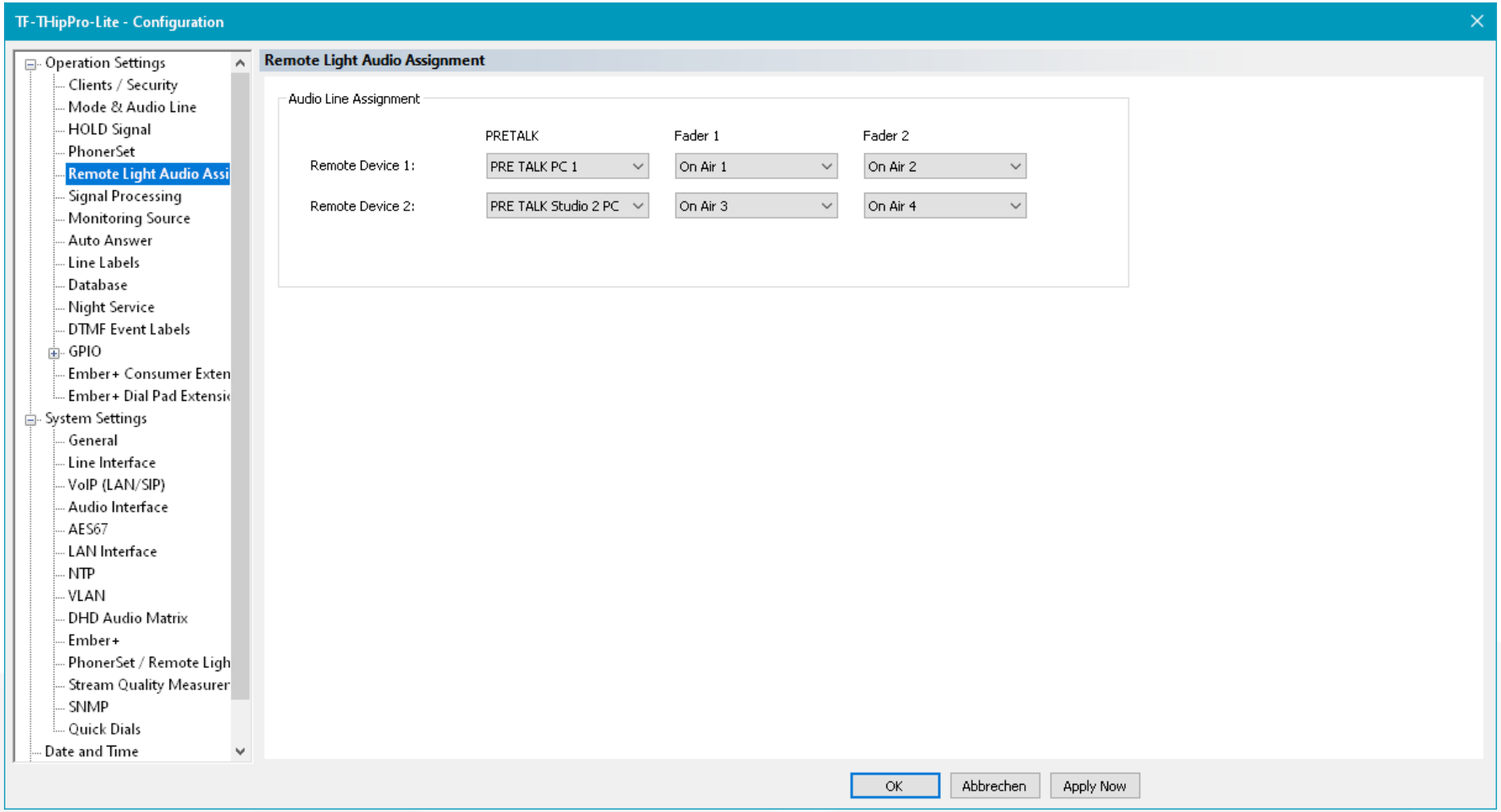
SNMP
Quick Dials
Date and Time
PhonerSet
Studio/Caller Line
PhonerSet 1:
Studio 1
ON AIR Access
PhonerSet 2:
Studio 1
ON AIR Access
PhonerSet 3:
Studio 2
ON AIR Access
PhonerSet 4:
Studio 2
ON AIR Access
PhonerSet 5:
Line 7
ON AIR Access
PhonerSet 6:
Line 8
ON AIR Access
OK
Abbrechen
Apply Now

PhonerSet (1)

- Define which audio lines are used by the PhonerSet workplaces PHONERSET page.
- STUDIO / Caller Line: Define which channels are displayed in the PhonerSet app for each workplace.
  - STUDIO N: All channels of the respective studio are available on the PhonerSet.
  - LINE N: Only the specified channel is available on the PhonerSet.

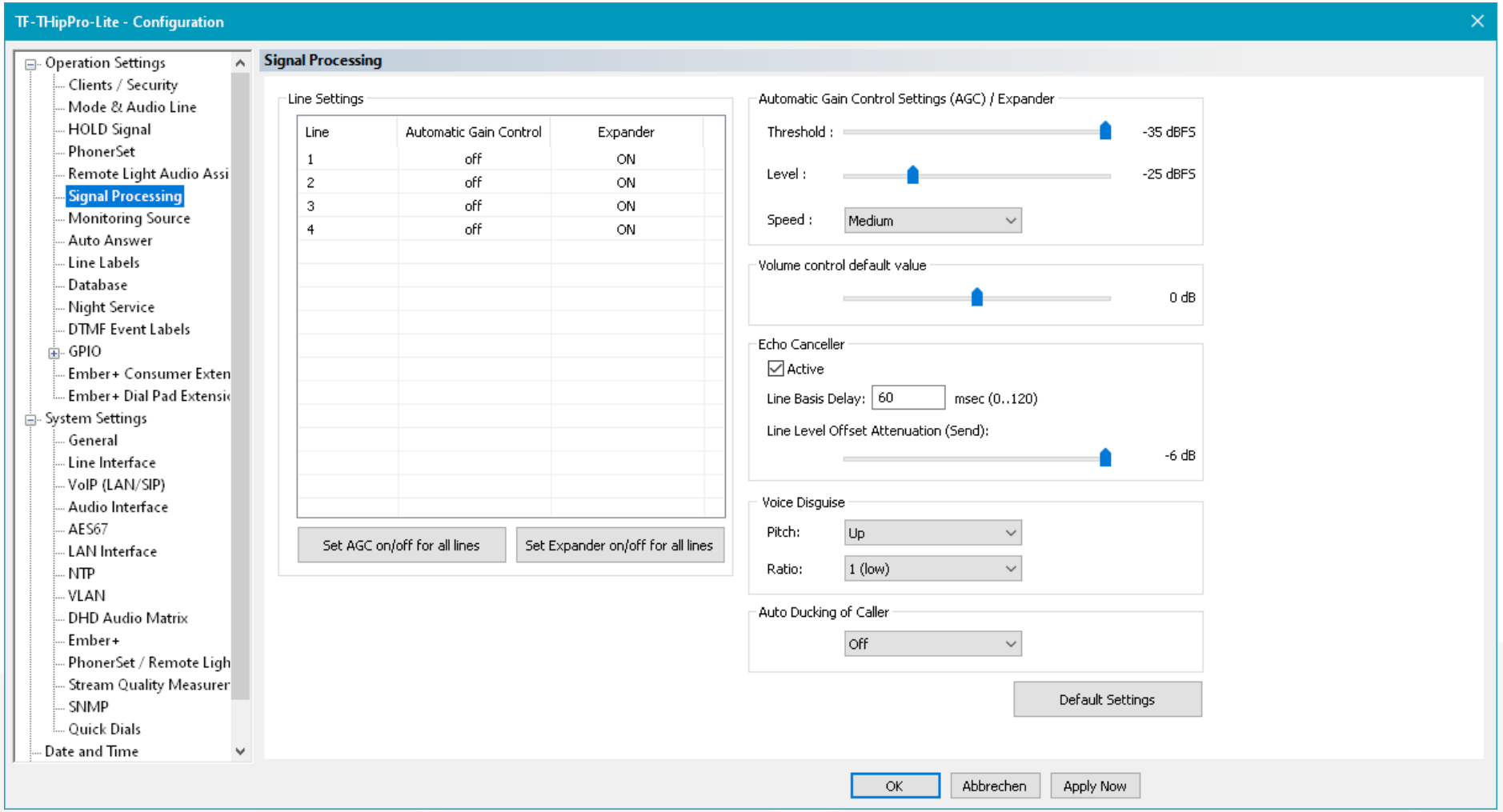
PhonerSet (2)



Remote Light Audio Assignment (1)

- Define which audio lines are used by the clients which control the MAGIC THipPro Lite via the Remote Light Protocol.
- Only audio interfaces which are assigned to audio lines on the MODE & AUDIO LINE configuration page are available.
- For each Remote Light client, the following functions are available:
  - PRETALK
  - FADER 1: On Air 1
  - FADER 2: On Air 2

Remote Light Audio Assignment (2)



Signal Processing (1)

- Define the signal processing parameters on the SIGNAL PROCESSING page.
- LINE SETTINGS:
  - AUTOMATIC GAIN CONTROL: The AGC controls the amplifier which processes the audio signal of the caller. Enable the AGC to maintain a certain audio level despite variations in the caller's voice or differences between callers. The AGC parameters can be modified under AUTOMATIC GAIN CONTROL SETTINGS (AGC) / EXPANDER.
    The user can enable or disable the AGC for each call individually by clicking on the level meter on the main panel of the PC software.
  - EXPANDER: There are expander filters for all telephone channel inputs and outputs. The expanders are always on. They lower the level of quiet audio signals even more to reduce noise. The threshold under AUTOMATIC GAIN CONTROL SETTINGS (AGC) / EXPANDER is used for AGC and the expander for received audio signals. The threshold for transmitted audio signals is -52 dBFS.
- AUTOMATIC GAIN CONTROL SETTINGS (AGC) / EXPANDER: Define the filter parameters for AGC and expander.
  - THRESHOLD: The AGC is only applied to audio signals above this level. The expander is only applied to audio signals below this level.
  - LEVEL: Define the target level for the AGC. The AGC tries to maintain this level for the audio signal from the caller. By default the amplifier has a range of 32 dB. Which means it can lower the signal by 16 dB and amplify the signal by 16 dB. If the target level is set higher than -20 dBFS the range of 32 dB remains but splits differently. The higher the target level the more amplification is possible at the cost of lowered possible attenuation.
  - SPEED: Define how fast the AGC should adjust to changes in the audio signal coming from the caller. (SLOW, MEDIUM, FAST, VERY FAST)

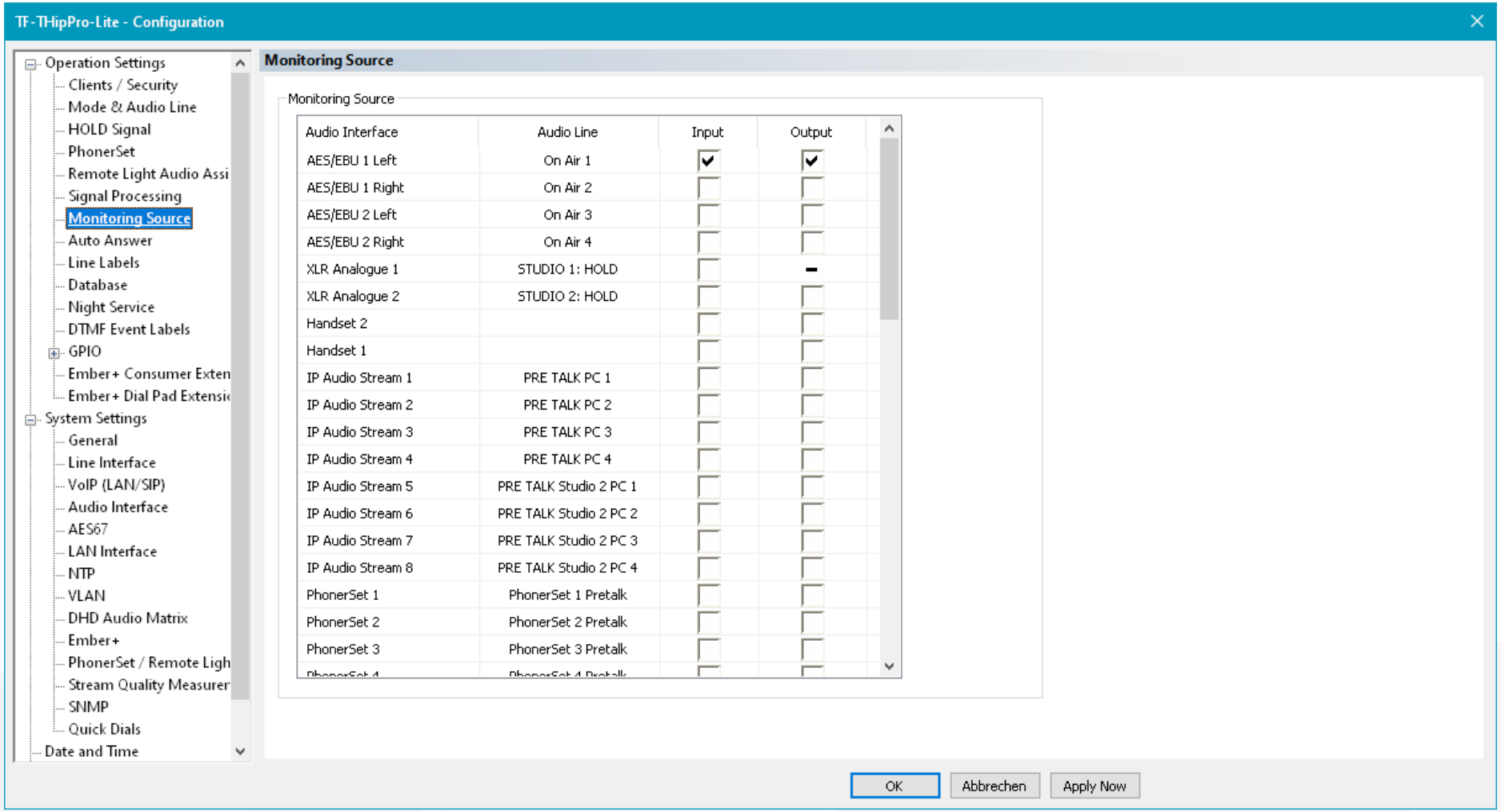
Signal Processing (2)

- VOLUME CONTROL DEFAULT VALUE: The level of the audio signal coming from the caller can be adjusted manually in the PC software if AGC is disabled. Define the default amplification here. It is set each time a call is disconnected so, the next call starts with the default value.
- ECHO CANCELLER: The echo canceller eliminates echo coming back from the caller in POTS, and VoIP mode. It is not used for HD-Voice calls. There is a dedicated echo canceller for each telephone channel.
  It is recommended to adjust the audio levels so that the TX level displayed on the main panel of the PC software is between -18 dBFS and -12 dBFS.
  - ACTIVE: Enables the echo cancellers. Especially analogue telephones cause strong echoes.
- LINE BASIS DELAY: The echo canceller can detect and eliminate echoes with a delay of up to 120 ms. Each telephone network has an individual minimum round-trip time for echo signals. This timespan can be ignored by the echo canceller. The defined line basis delay moves the 120 ms range of the echo canceller.
  A value of e.g. 60 ms enables the hybrid to eliminate echoes which occur within 60 ms to 180 ms.
- Recommended values:
  - POTS: 0 ms
  - POTS with PBX: 40 ms
  - VoIP: 60 ms
- LINE LEVEL OFFSET ATTENUATION (SEND): Define how much the level of the audio signal being sent over the telephone channel to the caller is attenuated. Decrease the value if the returned echo signal is too strong to be eliminated by the echo canceller.

Signal Processing (3)

- VOICE DISGUISE: Define the parameters of the Voice Disguise module here. Voice Disguise can be enabled on the MODE & AUDIO LINE configuration page.
  - PITCH: Set to UP to shift the voice to higher notes. Set to DOWN to shift the voice to lower notes.
  - RATIO: Define how strong the effect should be. Range: 1 (low) …. 4 (high)
- AUTO DUCKING OF CALLER: Define how much the caller's voice is attenuated when an audio signal is sent to the caller e.g. when the presenter speaks.
  Range: Off, -6 dB … -42 dB
- DEFAULT SETTINGS: Sets the parameters on this page to factory default.

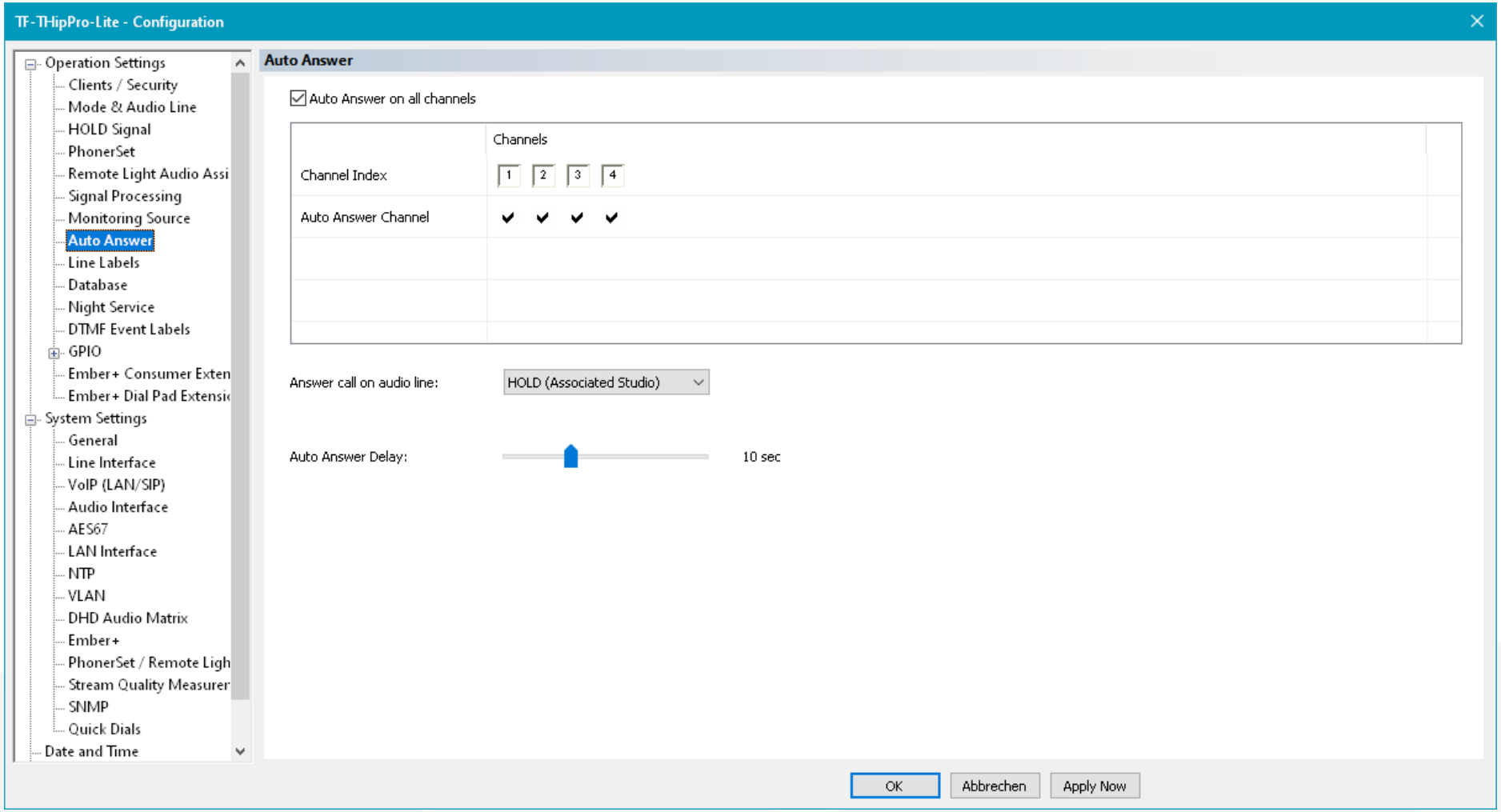
Signal Processing (4)



Monitoring Source (1)

- Define audio monitoring parameters on the MONITORING SOURCE page.
- The monitoring audio signal is output on the audio interface assigned to HOLD / MONITORING on the MODE & AUDIO LINE configuration page.
- Select the audio signals to monitor in the table:
  - AUDIO INTERFACE: Name of the audio interface.
  - AUDIO LINE: The audio line assigned to the audio interface on the MODE & AUDIO LINE configuration page.
  - INPUT: Enable the input to monitor the audio signal coming in on that audio interface.
  - OUTPUT: Enable the output to monitor the audio signal going out on that audio interface.

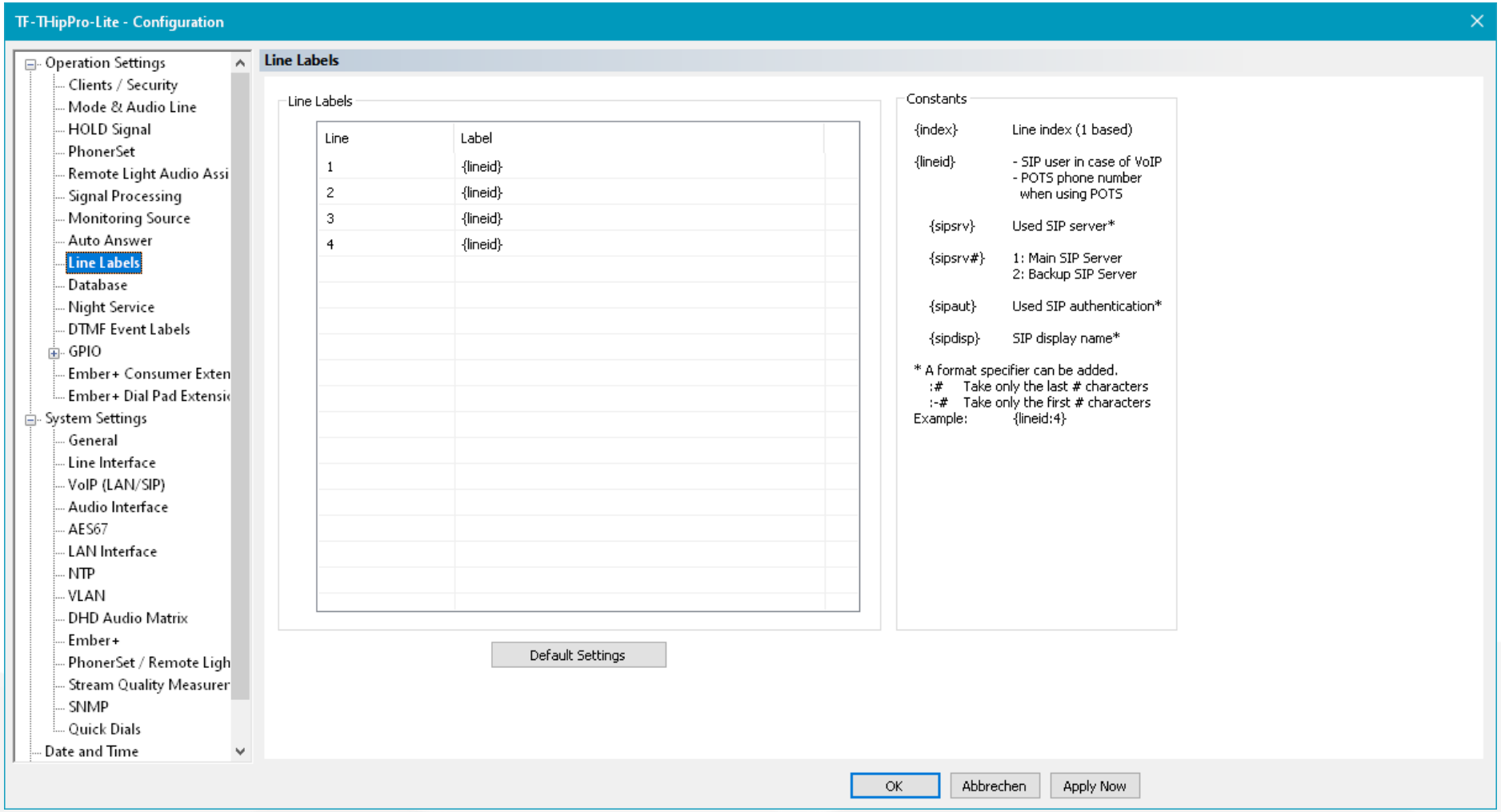
Monitoring Source (2)



Auto Answer (1)

- Define how the system accepts incoming calls automatically on the AUTO ANSWER page.
- AUTO ANSWER ON ALL CHANNELS: Select to activate the feature on all telephone channels.
- AUTO ANSWER CHANNEL: Enable auto answer on individual channels.
- ANSWER CALL ON AUDIO LINE: Define the audio line which is set on the telephone channel when a call is answered automatically.
  - HOLD (ASSOCIATED STUDIO): Use the Hold signal of the first studio the channel can be found in.
  - HOLD (STUDIO N): Use the Hold signal of a specific studio.
  - ON AIR (ASSOCIATED STUDIO): Use the audio line of On-Air fader 1 of the first studio the channel can be found in.
  - ON AIR N: Use a specific On-Air audio line.
  - PHONERSET N PRETALK: Use a specific PhonerSet pretalk audio line.
  - PRETALK N: Use a specific Pretalk audio line.
- AUTO ANSWER DELAY: Define how long a call must ring before the system accepts the call. During that time the call can be answered manually by the user.

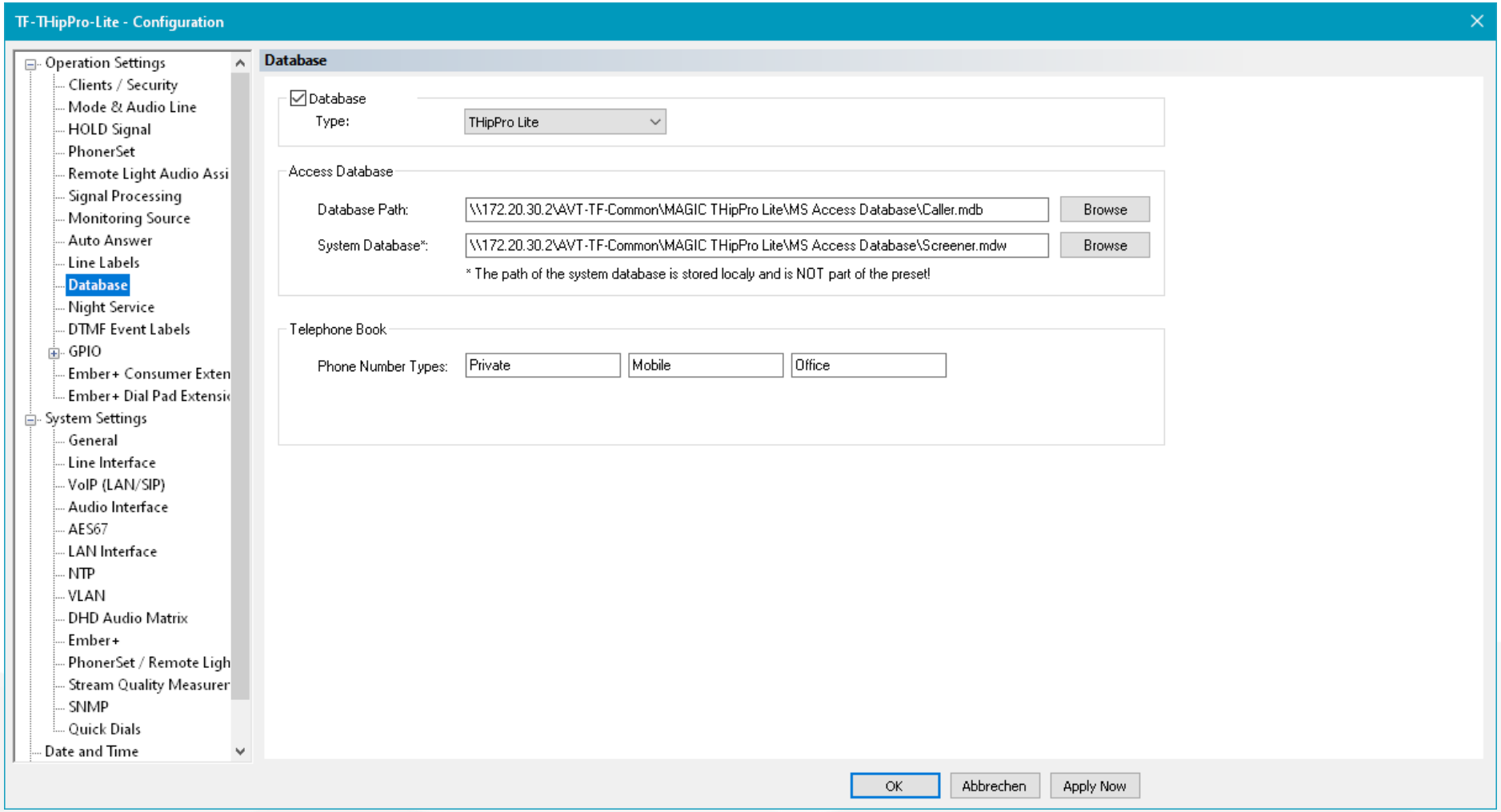
Auto Answer (2)



Line Labels (1)

- Define the labels of all telephone channels displayed on the main panel of the PC software on the LINE LABELS page.
- LINE: Shows the line numbers of the telephone channels available in the system.
- LABEL: Enter any text. You may also mix text with the supported variables:
  - {index}: Line index
  - **{lineid}**: telephone number derived from the line interface settings.
    - VoIP: SIP User as defined on the VoIP (LAN / SIP) configuration page.
    - ISDN: MSN as defined on the MSN configuration page.
    - POTS: Phone number as defined on the POTS Phone Numbers configuration page.
  - **{sipsrv}**: Only in VoIP mode. SIP server name / address currently used.
  - {sipsrv#}: Only in VoIP mode. 1 if the main SIP server is currently used. 2 if the backup SIP server is currently used.
  - **{sipaut}**: Only in VoIP mode. SIP authentication as defined on the VoIP (LAN / SIP) configuration page.
  - **{sipdisp}**: Only in VoIP mode. SIP display name as defined on the VoIP (LAN / SIP) configuration page.
  - The output of variables in **bold** can be modified:
    - {...:#}: Use only the last # characters. (e.g. {lineid:4})
    - {...:-#}: Use only the first # characters.

Line Labels (2)


TF-THipPro-Lite - Configuration
Operation Settings
Clients / Security
Mode & Audio Line
HOLD Signal
PhonerSet
Remote Light Audio Assi
Signal Processing
Monitoring Source
Auto Answer
Line Labels
Database
Night Service
DTMF Event Labels
GPIO
Ember+ Consumer Exten
Ember+ Dial Pad Extensi
System Settings
General
Line Interface
VoIP (LAN/SIP)
Audio Interface
AES67
LAN Interface
NTP
VLAN
DHD Audio Matrix
Ember+
PhonerSet / Remote Ligh
Stream Quality Measurer
SNMP
Quick Dials
Date and Time
Database
Database
Type:
THipPro Lite
Access Database
Database Path:
\\172.20.30.2\AVT-TF-Common\MAGIC THipPro Lite\MS Access Database\Caller.mdb
Browse
System Database*:
\\172.20.30.2\AVT-TF-Common\MAGIC THipPro Lite\MS Access Database\Screener.mdw
Browse
* The path of the system database is stored localy and is NOT part of the preset!
Telephone Book
Phone Number Types:
Private
Mobile
Office
OK
Abbrechen
Apply Now

Database (1)

- Configure the phone book databases on the DATABASE page.
- The MAGIC THipPro Lite uses a Microsoft Access database to store caller information and call history.
- The optional SQL upgrade enables the MAGIC THipPro Lite system to use the SQL database of a full MAGIC THipPro system.
- DATABASE: Enable this option to store caller information in a database. When disabled, caller information can still be entered in the PC software. This information is also distributed to the other clients. But it can not be stored for later use.

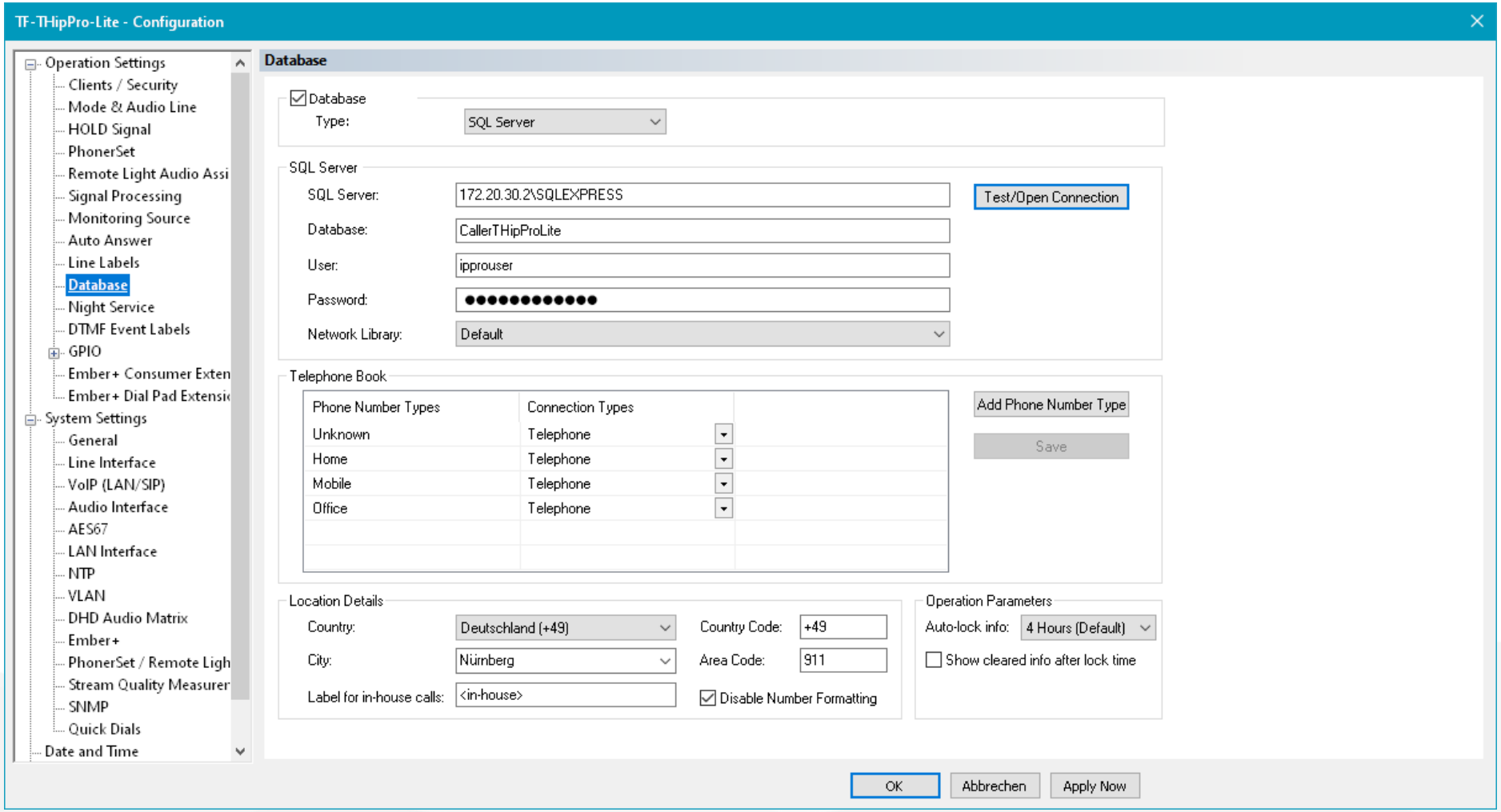
- TYPE: Select a database type:
  - MAGIC TOUCH: This is a Microsoft Access database using the format of the discontinued MAGIC Touch telephone hybrid system.
  - MAGIC THIPPRO LITE: This is a Microsoft Access database using a new format tailored for the MAGIC THipPro Lite.
  - SQL SERVER: This is a Microsoft SQL (Express) database using the same format as the MAGIC THipPro.

Database (2)

- ACCESS DATABASE:
  - DATABASE PATH: Enter the path and filename of the Microsoft Access database file. This file contains phone book and call history. It must be available to all clients for read and write access. Find the database file “Caller.mdb” in the installation directory of the MAGIC THipPro Lite PC software. Copy the file to a location where all clients have permission to read the file and write to the file.
  - SYSTEM DATABASE: Enter the path and filename of the Microsoft Access system database file. This file contains the parameters for the clients to access the phone book. Find the system database file “Screener.mdw” in the installation directory of the MAGIC THipPro Lite PC software.

- PHONE NUMBER TYPES: Each phone number stored in the database can be assigned to one of three phone number types. The label for these types may be defined here.
  By default, these types are:
  - Private
  - Mobile
  - Office

Database (3)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Stream Quality Measurer
SNMP
Quick Dials
Date and Time
Database
Database
Type:
SQL Server
SQL Server
SQL Server:
172.20.30.2\SQLEXPRESS
Test/Open Connection
Database:
CallerTHipProLite
User:
ipprouser
Password:
Network Library:
Default
Telephone Book
Phone Number Types
Connection Types
Unknown
Telephone
Home
Telephone
Mobile
Telephone
Office
Telephone
Add Phone Number Type
Save
Location Details
Country:
Deutschland (+49)
Country Code:
+49
City:
Nürnberg
Area Code:
911
Label for in-house calls:
<in-house>
Disable Number Formatting
Operation Parameters
Auto-lock info:
4 Hours (Default)
Show cleared info after lock time
OK
Abbrechen
Apply Now

Database (4)

- SQL SERVER:
  - Find the SQL SERVER 2012 INSTALLATION document in the download section of our website. It describes:
    - How to install the Microsoft SQL Express server.
    - How to configure the Microsoft SQL server.
    - How to install the MAGIC THipPro phone book database on a Microsoft SQL server.
    - The manual also applies to newer versions of the Microsoft SQL server.
  - SQL SERVER: Network address of the Microsoft SQL server followed by the database instance separated by a backslash '\'). Depending on the SQL server configuration the database instance might be omitted.
  - DATABASE: The SQL database name.
  - USER: The SQL database user name.
  - PASSWORD: The users SQL database password.
- NETWORK LIBRARY: Chose a network library which uses a protocol which is supported by the specified SQL server:
  - DEFAULT: The driver on the Client PC choses the network library automatically.
  - NAMED PIPES
  - TCP/IP
- TEST/OPEN CONNECTION: Establish a connection to the SQL server. If the connection fails, additional information about the error is displayed.

Database (5)

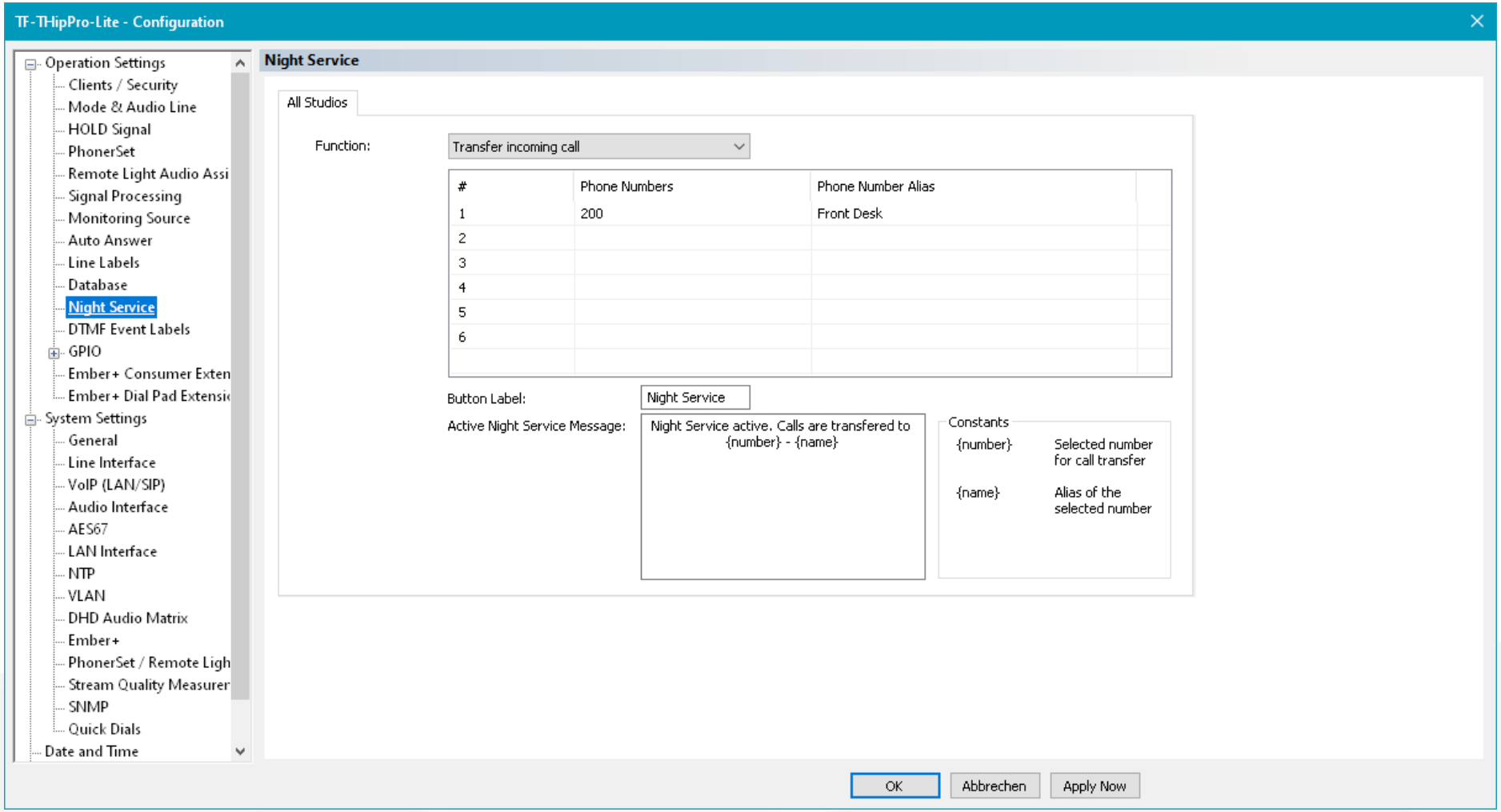
- TELEPHONE BOOK
  - Each phone number stored in the database can be assigned to a phone number type.
  - Four phone number types are available by default:
    - Unknown
    - Mobile
    - Office
    - Home
  - PHONE NUMBER TYPES: Click on a phone number type to edit the name. Erase the name to delete the phone number type. Default phone number types cannot be deleted.
  - CONNECTION TYPES: Chose a connection type:
    - TELEPHONE: For telephone numbers used on MAGIC THipPro Lite channels.
  - ADD PHONE NUMBER TYPE: Click to add a phone number type to the list. Edit the parameters directly in the list.
  - SAVE: Press to save the changes in the database.

- LOCATION DETAILS: With these parameters the MAGIC THipPro Lite can distinguish between local, long-distance and international calls. They are also necessary to store the telephone numbers in a standardized format.
  - COUNTRY: Select the country from the list in which the MAGIC THipPro Lite is located. This automatically sets the COUNTRY CODE. If the desired country cannot be found, set the country code by hand.
  - COUNTRY CODE: The international dialling code of the country in which the MAGIC THipPro Lite is located.
  - CITY: Select the city from the list in which the MAGIC THipPro Lite is locate. This automatically sets the AREA CODE. If the desired city cannot be found, set the area code by hand.
  - AREA CODE: The national telephone number prefix for the city in which the MAGIC THipPro Lite is located.
  - LABEL FOR INHOUSE CALLS: This label is displayed instead of the caller's city when a call is identified as coming from an internal extension.
  - DISABLE NUMBER FORMATTING: Enable to store and display telephone numbers of incoming calls as they are signaled by the telephone network.

Database (6)

- OPERATION PARAMETERS: Manage access to database content.
  - AUTO-LOCK INFO: Information about each call may be stored by the user in the info record. Set the timeout when the system locks the info record after the last editing. If an info record is locked, the user must use a new info record for entering call information. The locked dataset remains in the database to display the history of the caller.
  - SHOW CLEARED INFO AFTER LOCK TIME: Enable to automatically create a new record when the current info record was locked by the AUTO-LOCK.

Database (7)



Night Service (1)

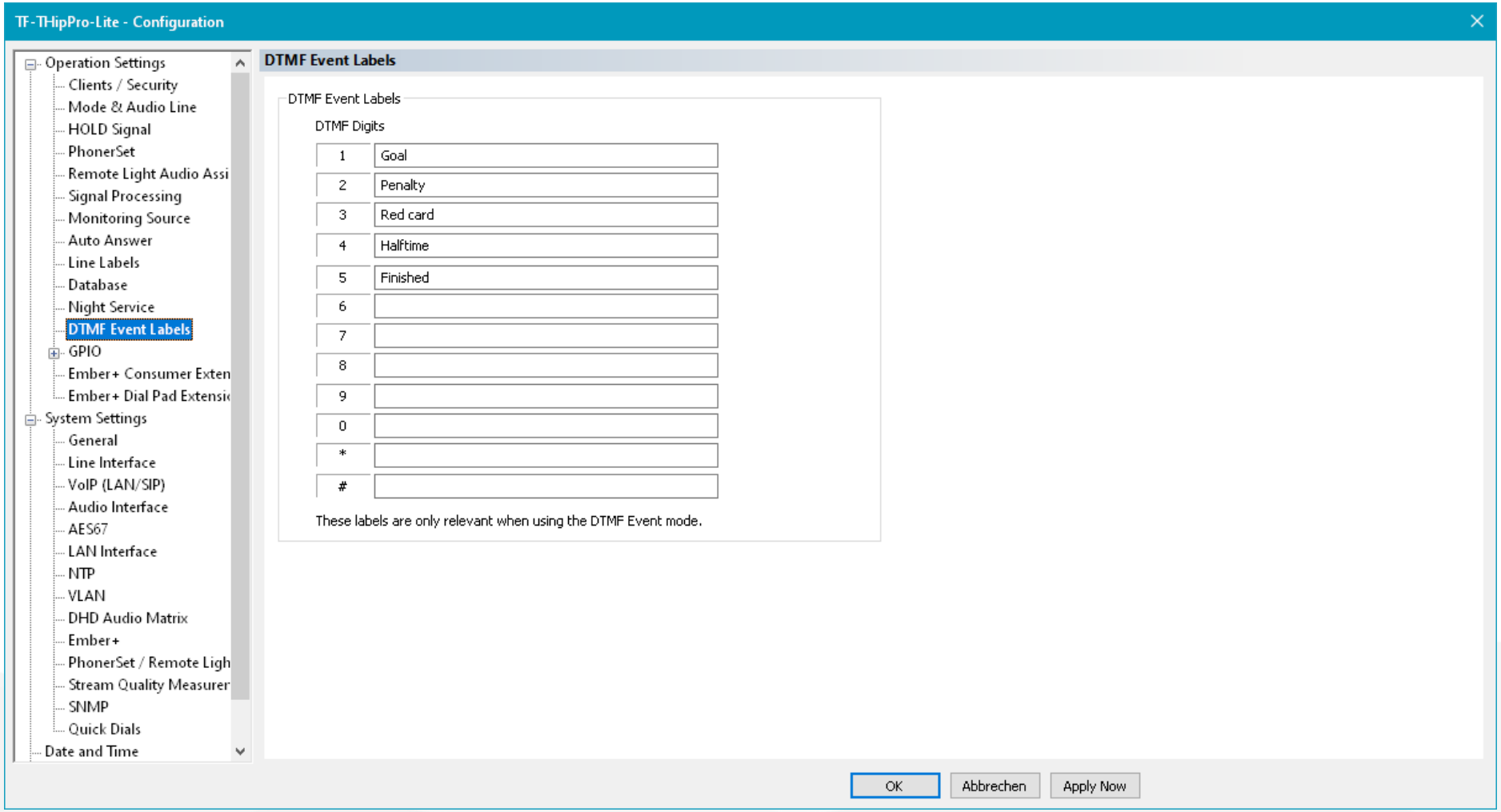
- Configure the Night Service mode and parameters on the NIGHT SERVICE page.
- When night service is activated, all incoming calls are forwarded to another telephone.
- Up to six different call forwarding destinations can be defined.
- Activate the night service via the action bar at the top of the PC software's main panel. If several forwarding destinations are configured the user can chose a number when activating the night service.
- When the night service is activated, the telephone channels on the main panel of the PC software are disabled, and the configured message is displayed.

- FUNCTION: Select a mode:
  - NO NIGHT SERVICE OPERATION: Night service is not available to the user.
  - TRANSFER INCOMING CALL: Every incoming call is transferred using ECT (Call forwarding by the PBX or the provider, which is widely supported)

Night Service (2)

- TRANSFER INCOMING CALL parameters:
  - #: Six different call forwarding destinations can be defined.
  - PHONE NUMBERS: Define the call forwarding destinations.
  - PHONE NUMBER ALIAS: Enter a short text describing the destination. It will be presented to the user when selecting a destination and can be used in the night service message.
- GENERAL parameters:
  - ACTIVATION BUTTON LABEL: Define the label of the button in the line group menu of the PC software's action bar.
  - ACTIVE NIGHT SERVICE MESSAGE: Define the message that is displayed on the telephone channels in the PC software when the night service is active. Enter any text. You may include the supported variables:
    - {number}: The destination phone number.
    - {name}: The phone number alias of the destination.

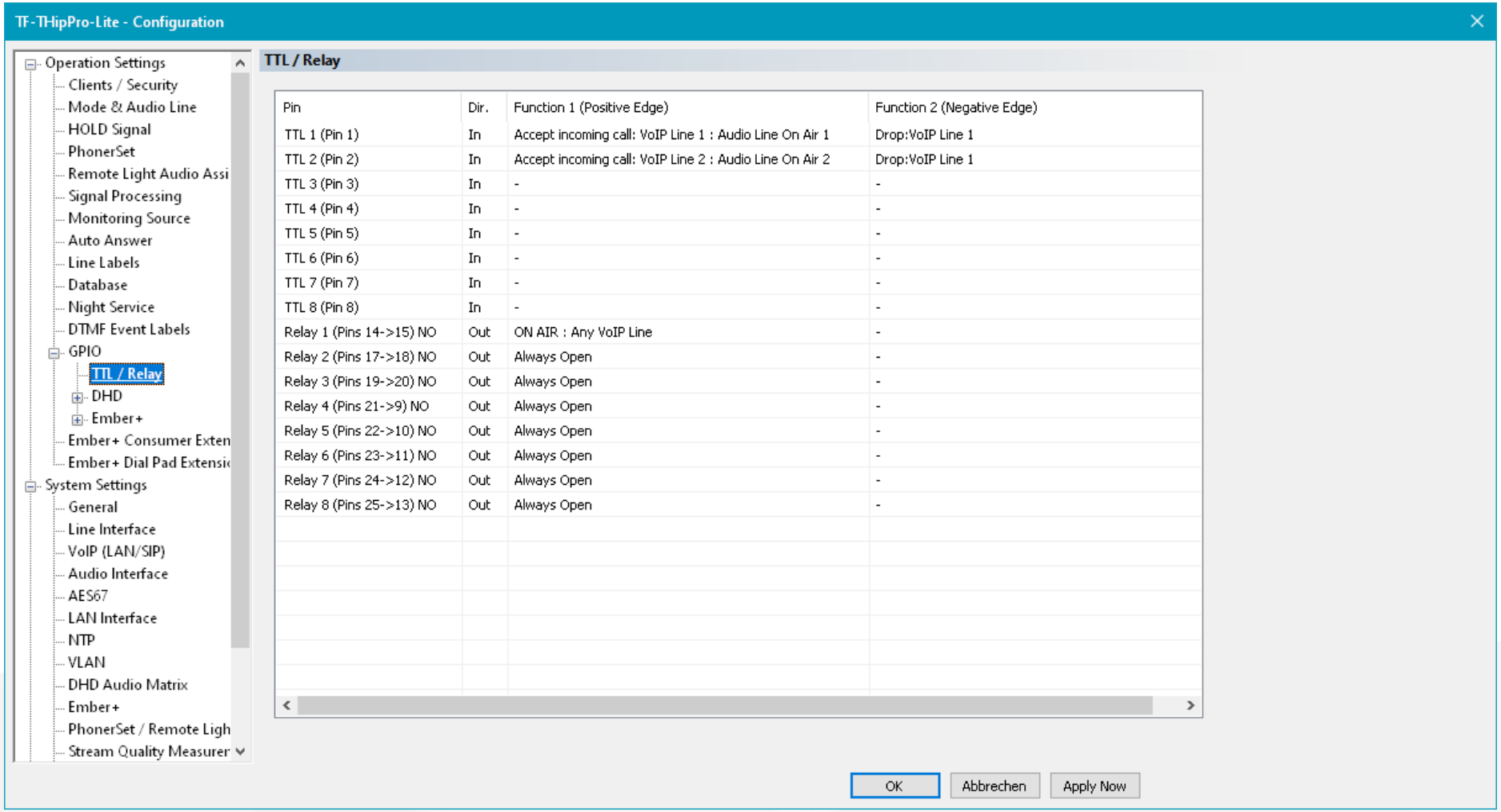
Night Service (3)



DTMF Event Labels (1)

- Configure the labels for the DTMF event mode on the DTMF EVENT MODE page.
- DTMF (Dual-tone multi-frequency) tones are sent when a caller presses a button (0-9, *,#) on his or her phone. The information can be decoded by the MAGIC THipPro Lite.
- The MAGIC THipPro Lite can decode signals which are transmitted as an audio signal or via RFC2833 in VoIP mode.
- The DTMF mode may be selected by the user of the PC software under **Menu > Configuration > DTMF Settings > Mode**.
- If the DTMF Event Mode is active, a text can be assigned to each DTMF code. When a DTMF tone is received the PC software displays the text instead of the digit. The text is displayed for five seconds.
- DTMF DIGITS: Specify a label for each digit.

DTMF Event Labels (2)


TF-THipPro-Lite - Configuration
Operation Settings
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HOLD Signal
PhonerSet
Remote Light Audio Assi
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Auto Answer
Line Labels
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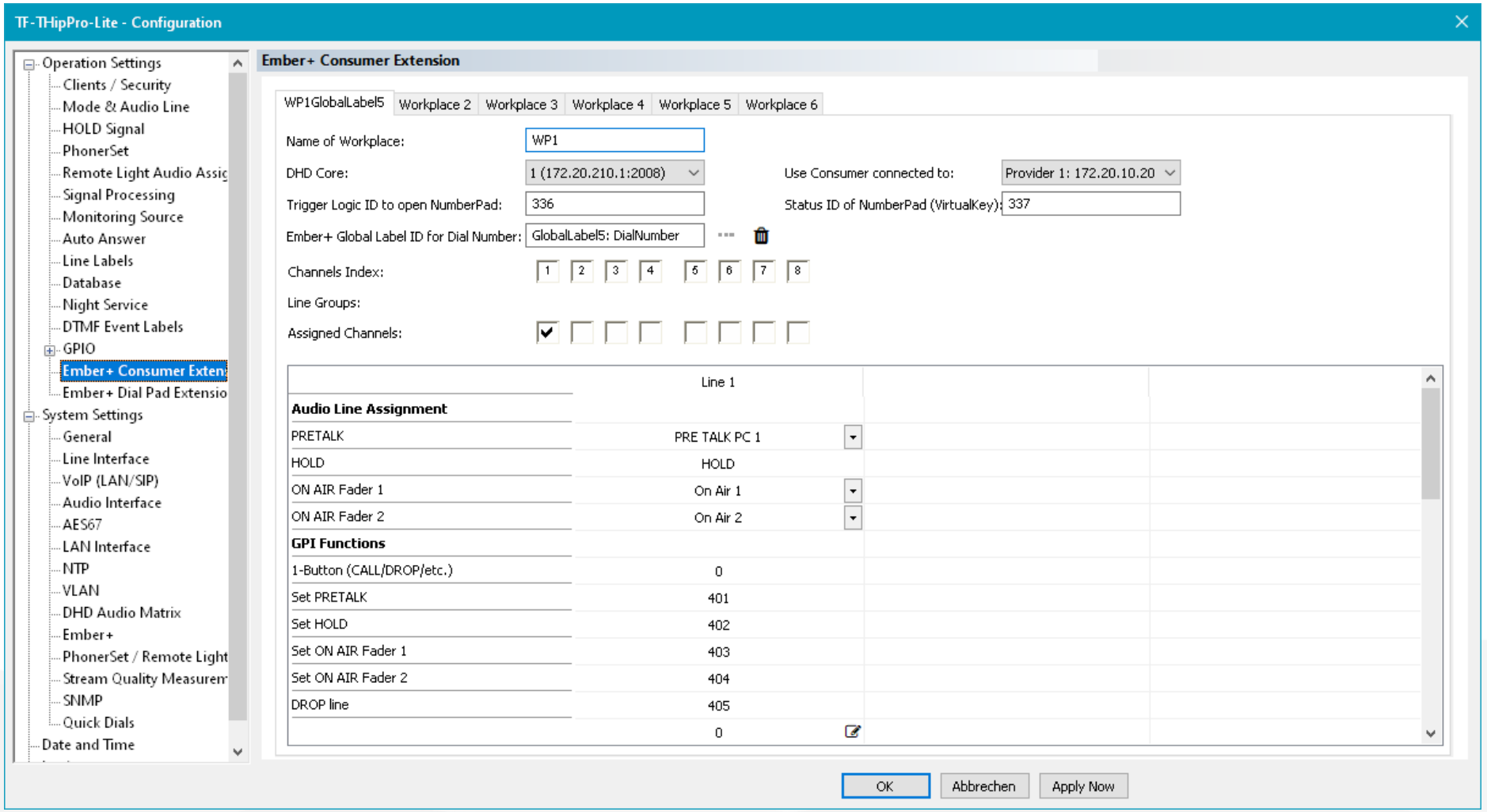
GPIO
TTL / Relay
DHD
Ember+
Ember+ Consumer Exten
Ember+ Dial Pad Extensi
System Settings
General
Line Interface
VoIP (LAN/SIP)
Audio Interface
AES67
LAN Interface
NTP
VLAN
DHD Audio Matrix
Ember+
PhonerSet / Remote Ligh
Stream Quality Measurer
TTL / Relay
Pin | Dir. | Function 1 (Positive Edge) | Function 2 (Negative Edge)
TTL 1 (Pin 1) | In | Accept incoming call: VoIP Line 1 : Audio Line On Air 1 | Drop:VoIP Line 1
TTL 2 (Pin 2) | In | Accept incoming call: VoIP Line 2 : Audio Line On Air 2 | Drop:VoIP Line 1
TTL 3 (Pin 3) | In | - | -
TTL 4 (Pin 4) | In | - | -
TTL 5 (Pin 5) | In | - | -
TTL 6 (Pin 6) | In | - | -
TTL 7 (Pin 7) | In | - | -
TTL 8 (Pin 8) | In | - | -
Relay 1 (Pins 14->15) NO | Out | ON AIR : Any VoIP Line | -
Relay 2 (Pins 17->18) NO | Out | Always Open | -
Relay 3 (Pins 19->20) NO | Out | Always Open | -
Relay 4 (Pins 21->9) NO | Out | Always Open | -
Relay 5 (Pins 22->10) NO | Out | Always Open | -
Relay 6 (Pins 23->11) NO | Out | Always Open | -
Relay 7 (Pins 24->12) NO | Out | Always Open | -
Relay 8 (Pins 25->13) NO | Out | Always Open | -
OK
Abbrechen
Apply Now

GPIO (1)

- Configure GPIOs (General Purpose Input / Output) on the GPIO pages.
- The MAGIC THipPro Lite provides 8 hardware TTLs through its GPIO connector at the back.
  - Each TTL GPIO can be configured individually as input or output.
  - Each pin has an internal pull up resistor. An open pin has therefore the logic state “high”.
  - Use for example an external relay to short the pin to device ground which is also available through the GPIO connector.
  - In the "high" position, a TTL output supplies a voltage of 3.3 V and a maximum current of 10 mA.
- The MAGIC THipPro Lite provides 8 hardware Relays through its GPIO connector at the back.
  - A relay can be loaded with maximum 200 mA and 48 V.
- Double-click a list entry to configure the TTL or Relay function.
  - Find the details on the available functions in the **Signalling and Control with EmBER+** document available in the download section of our website.
- If DHD AUDIO MATRIX is enabled, you can configure up to 64 GPIOs under GPIO – DHD – SET LOGIC.
  - Each GPIO can be configured individually as input or output.
  - Find the details on the available functions in the **Signalling and Control with DHD SetLogic** document available in the download section of our website.

GPIO (2)

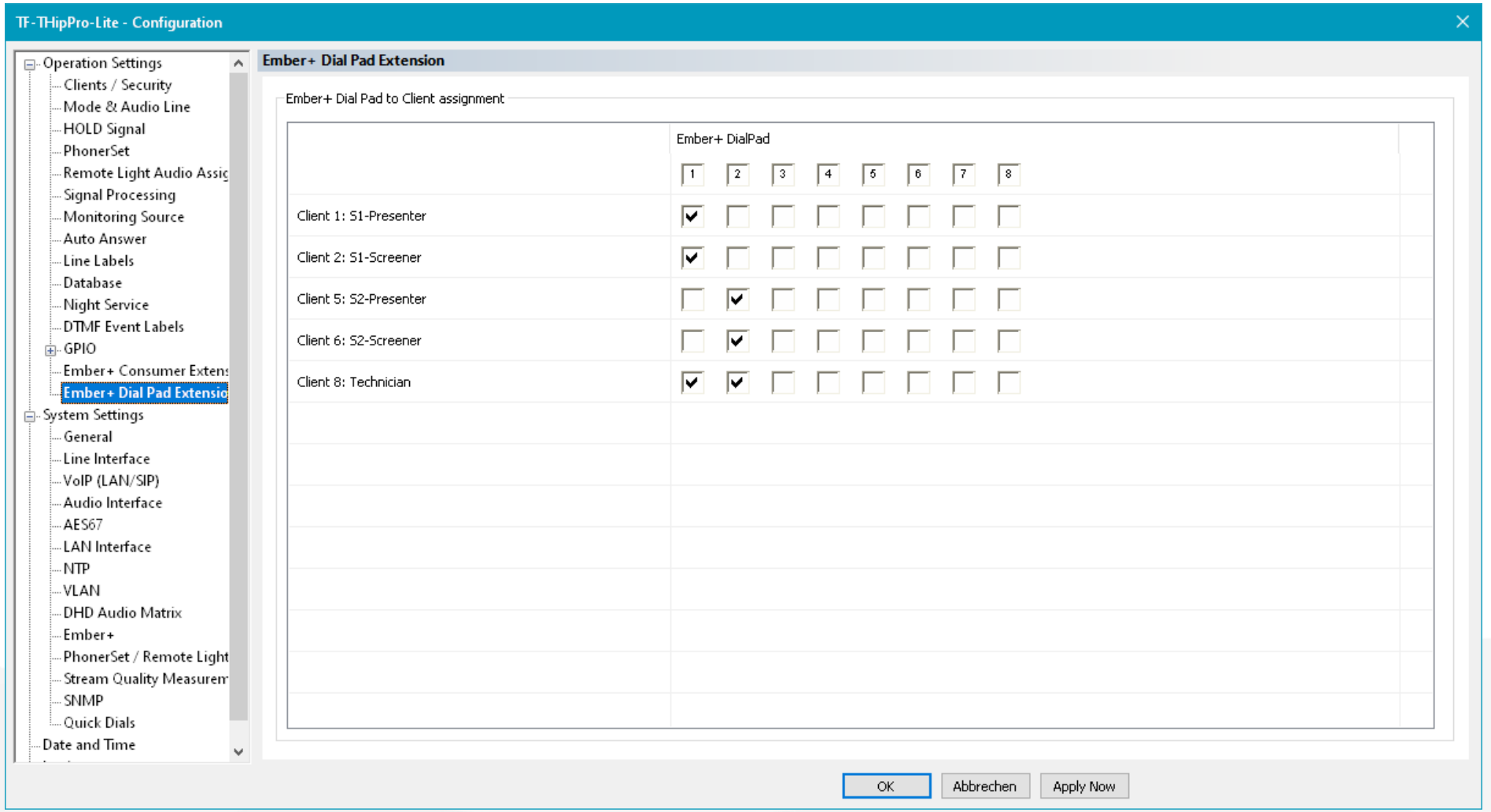
- If EMBER+ PROVIDER is enabled, you can configure up to 64 inputs and 64 outputs under GPIO – EMBER+ – INPUT/OUTPUT.
  - Find the details on the available functions in the **Signalling and Control with EmBER+** document available in the download section of our website.
- If EMBER+ CONSUMER is enabled, you can configure up to 20 functions for each consumer under GPIO – EMBER+ – CONSUMER FUNCTIONS.
  - Find the details on the available functions in the **Signalling and Control with EmBER+** document available in the download section of our website.



Ember+ Consumer Extension (1)

- The EMBER+ CONSUMER EXTENSION makes it easy to control telephone lines of the MAGIC THipPro Lite from a mixing console without using the PC software.
- The mixing console must act as Ember+ provider and support DHD SetLogic.
- Configure the workplaces on the EMBER+ CONSUMER EXTENSION configuration page.
  - Find the complete configuration guide with examples in the **Ember+ Consumer Extension** document available in the download section of our website.

Ember+ Consumer Extension (2)



Ember+ Dial Pad Extension (1)

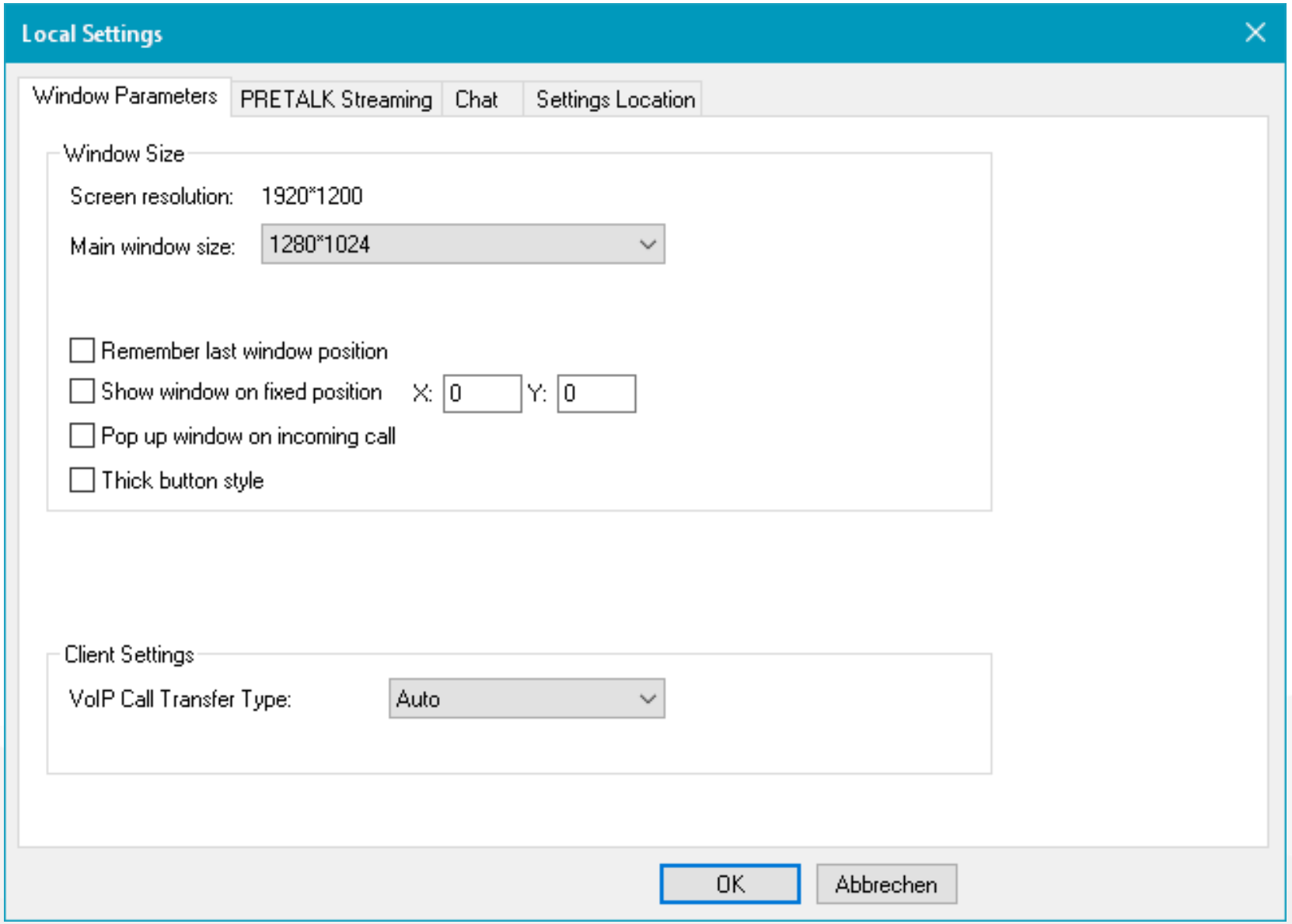
- Define which PC clients display the number entered on the respective Ember+ Dial Pad on the EMBER+ DIAL PAD EXTENSION configuration page.
- Up to 8 pre-defined Dial Pads can be provided by the MAGIC THipPro Lite Ember+ Provider.
- Find the dial pads in the Ember+ tree of the MAGIC THipPro Liteunder:
  AVT MAGIC THipPro > GPIOs > Dial Pad N
- Find the number entered via a dial pad in the Ember+ tree of the MAGIC THipPro Lite under:
  AVT MAGIC THipPro > Operation > Dial Pad Numbers > Dial Pad Number N

Ember+ Dial Pad Extension (2)

MAGIC THipPro Lite

Local Settings

info@avt-nbg.de
www.avt-nbg.de



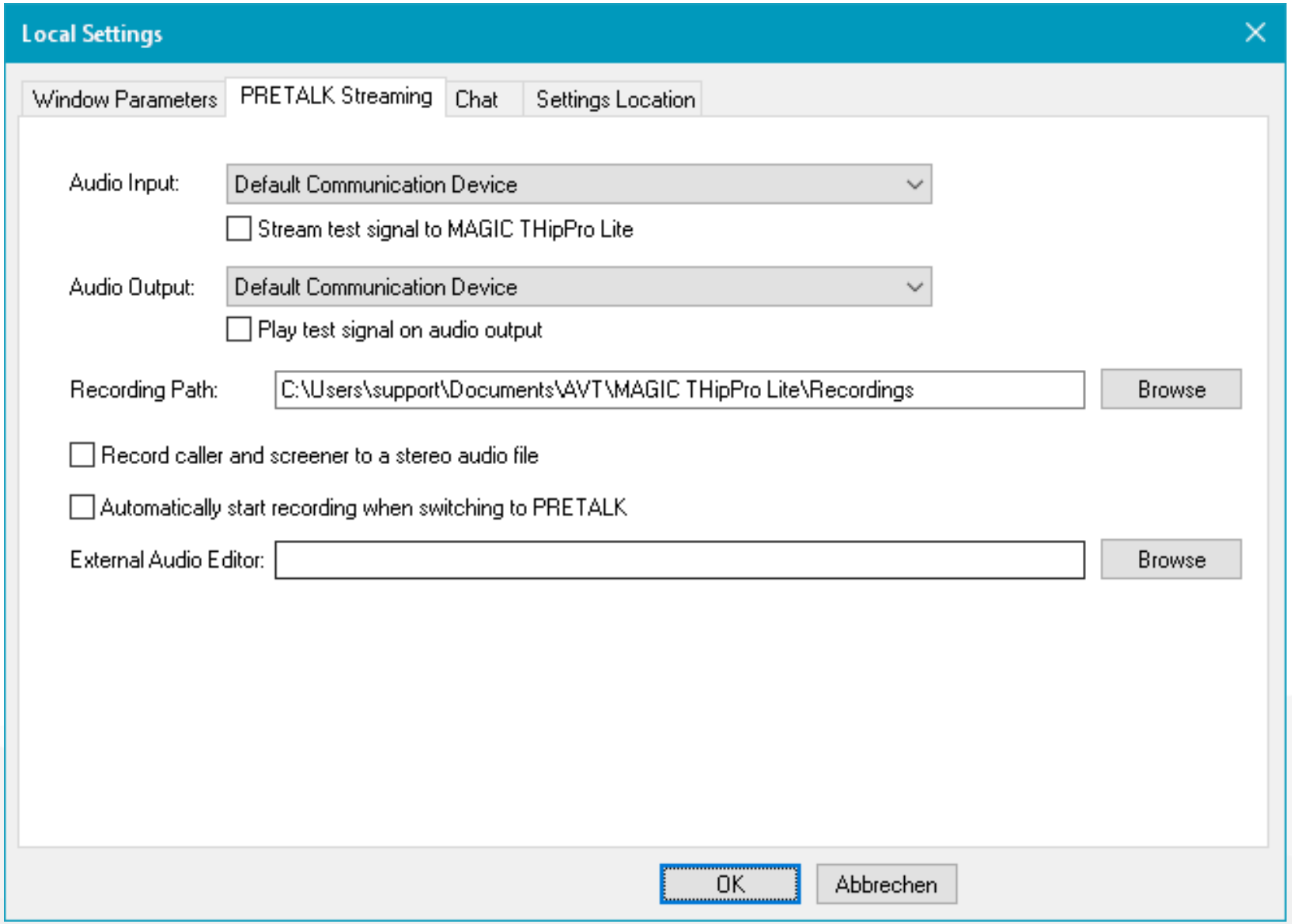
Window Parameters (1)

- Define the appearance of the PC software on the WINDOW PARAMETERS configuration page.
- SCREEN RESOLUTION: Displays the screen resolution of the monitor the application is displayed on as it is provided by the operating system. This may be different from the resolution defined in the graphic card driver due to the high DPI scaling feature of the operating system.
- MAIN WINDOW SIZE: Define the size of the main panel. Several options are available:
  - AUTO: The window will automatically take up the full screen without covering the taskbar. The window size is determined when the application starts. If the screen resolution changes or the taskbar changes, the application needs to be restarted.
  - CUSTOM: Set a custom windows size in pixels. The supported range is:
    - Width: 900 – 8000 pixels
    - Height: 280 – 6000 pixels
  - Predefined sizes: Select one of the predefined windows sizes.
- REMEMBER LAST WINDOW POSITION: The last window position of the main window is stored when closing the app. The next time the app is started, the window is displayed in the same place if this option is enabled. Otherwise, it is displayed in the top left corner of the main screen.
- SHOW WINDOW ON FIXED POSITION: Define the position of the top left corner of the application window on the screen when the application starts. The top left corner of the main screen has the coordinates X=0, Y=0.

Window Parameters (2)

- POP UP ON INCOMING CALL: Enable to bring the main panel to the foreground when a call comes in.
- THICK BUTTON BORDER: Enable this option display thicker edges on the Pretalk, Hold, On Air, … buttons.
- VOIP CALL TRANSFER TYPE:
  - ATTENDED CALL TRANSFER: The MAGIC THipPro Lite waits until the phone is picked up by the call transfer destination with the possibility to talk in Pretalk. In Hold or On Air, the MAGIC THipPro Lite hangs up as soon as the call transfer destination answers the call.
    - Note: Talking to the call transfer destination only works if **ECT on Pretalk with Auto Drop** on the **Line Interface** configuration page is disabled.
  - BLIND CALL TRANSFER: The MAGIC THipPro Lite sends a request to the PBX to transfer the call and hangs up. There is no chance to talk to the call transfer destination. If the transfer call is not answered, the original call cannot be retrieved.
  - AUTO: Uses Attended Call Transfer in Pretalk, otherwise Blind Call Transfer is used.

Window Parameters (2)



PRETALK Streaming (1)

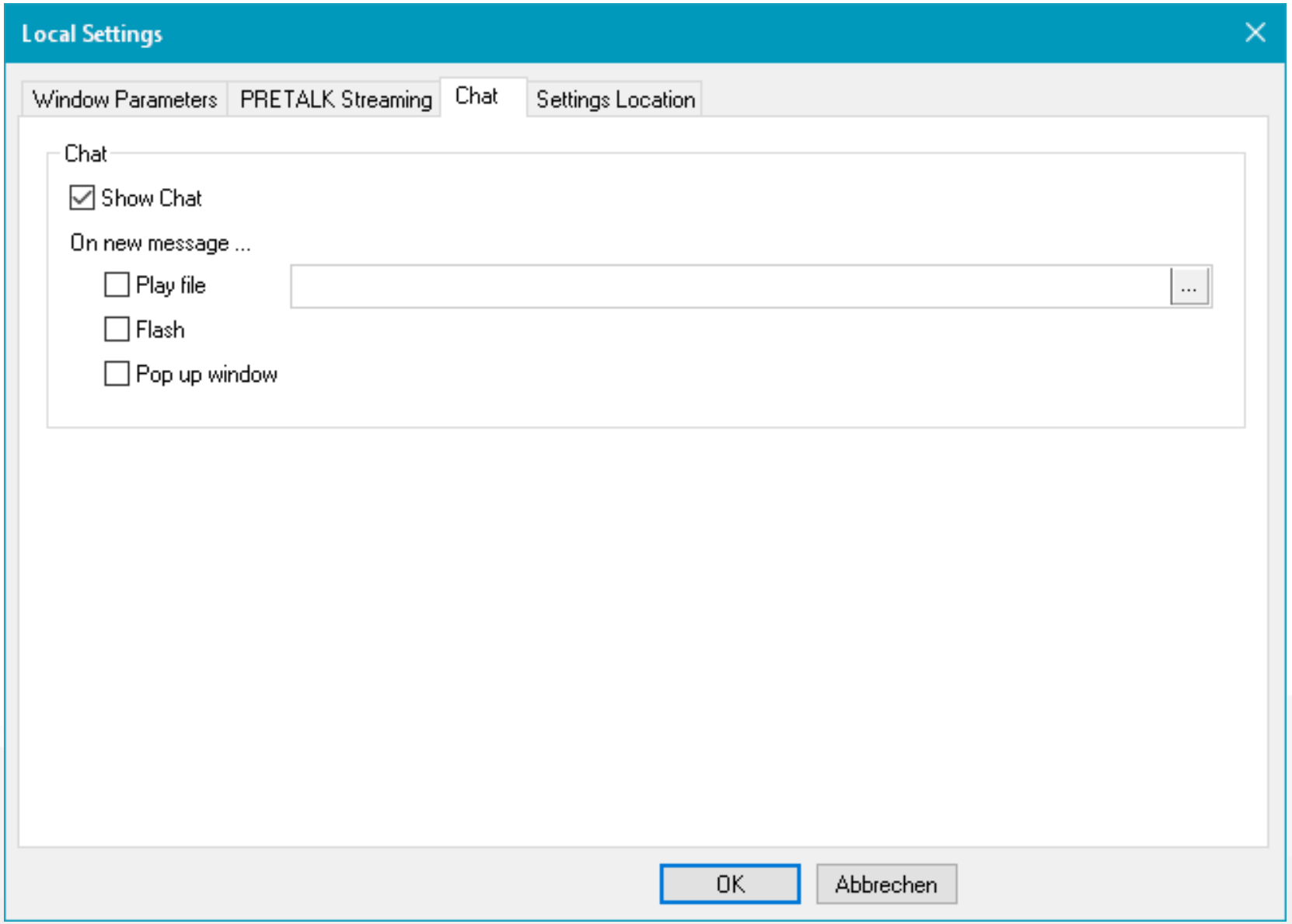
- PRETALK STREAMING
  - The audio signal of an audio input of the PC is streamed to the MAGIC THipPro Lite by the PC software.
  - The MAGIC THipPro Lite streams the audio signal of the caller to the PC.
  - The PC software outputs the audio signal of the caller to an audio interface of the PC.
  - A Pretalk stream is either fixed, where there is a permanent stream between the PC and the MAGIC THipPro Lite, or dynamic, where the PC software requests a stream from the MAGIC THipPro Lite when needed.
  - The audio signals of the caller and the user can also be recorded by the PC software.
  - The RECORD button on the PC software is only available when at least one call is in Pretalk und the client uses Pretalk Streaming.

- AUDIO INPUT: All available audio inputs are listed here. Select an audio input, the Primary Sound Capture Driver or the Default Communication Device. (Check the sound settings of the operating system to see which audio interfaces are set as Primary Sound Capture Driver and Default Communication Device.)
- STREAM TEST SIGNAL TO MAGIC THIPPRO LITE: If enabled, the PC software uses the clock provided by the audio interface to generate an audio signal which is streamed to the MAGIC THipPro Lite. There must be a telephone line in pretalk to hear the audio signal at the caller's end.

PRETALK Streaming (2)

- AUDIO OUTPUT: All available audio outputs are listed here. Select an audio output, the Primary Sound Driver or the Default Communication Device. (Check the sound settings of the operating system to see which audio interfaces are set as Primary Sound Driver and Default Communication Device.)
- PLAY TEST SIGNAL ON AUDIO OUTPUT: If enabled the PC software generates an audio signal and plays it on the audio output if the Pretalk stream from the MAGIC THipPro Lite is received.
- RECORD CALLER AND SCREENER TO A STEREO AUDIO FILE: Enable this option to record the audio signals of the caller and the user of the PC software to separate channels of a stereo audio file.
  If disabled, only the audio signal of the caller is recorded to a mono audio file.
- AUTOMATICALLY START RECORDING WHEN SWITCHING TO PRETALK: Enable this option to automatically record any caller in Pretalk. Recording stops automatically when a call is switched to Hold or On Air or when the call is dropped.
- EXTERNAL AUDIO EDITOR: Define an external audio editor.
  To open a recording in the audio editor, display the Recordings list, click on a recording with the right mouse button and click EDIT

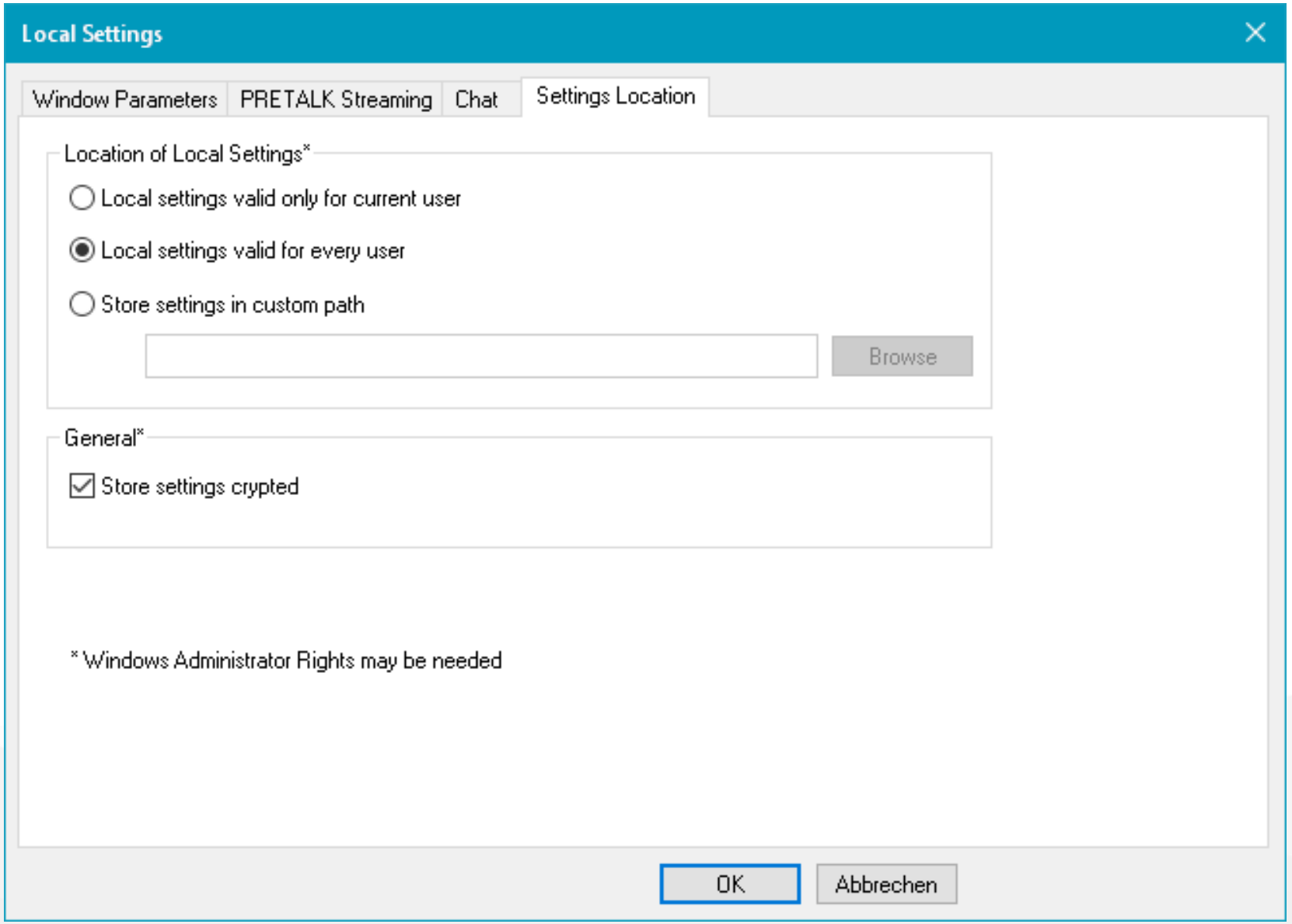
PRETALK Streaming (3)


Local Settings
Window Parameters
PRETALK Streaming
Chat
Settings Location
Chat
Show Chat
On new message ...
Play file
...
Flash
Pop up window
OK
Abbrechen

Chat (1)

- Define the parameters for the PC software chat on the CHAT page.
- The PC clients have an integrated chat function. A chat window is displayed when clicking the SHOW LISTS button in the top action bar of the main panel.
- SHOW CHAT: Enable this option if the chat window should be available on this client.
- ON NEW MESSAGE: Define how a new message is indicated.
  - PLAY FILE: Enable this option to play the specified audio file.
  - FLASH: Enable this option to make the frame of the chat feed flash.
  - POP UP WINDOW: Enable this option to bring the application window to the foreground.

Chat (2)



Settings Location (1)

- Define the storage location of the local settings on the SETTINGS LOCATION page.
- Local settings include all settings in the LOCAL SETTINGS window as well as the settings under MENU > CONFIGURATION > CONTROL INTERFACE.
- The selected storage location determines which Windows user rights are required to change the local settings.
- Changing these settings may require administrator rights.
- Select a settings location:
  - LOCAL SETTINGS VALID ONLY FOR CURRENT USER: The settings are saved in the user directory of the logged-in Windows account. User rights are sufficient to change the local settings. (%APPDATA%\LOCAL\AVT\MAGIC THipPro LITE)
  - FOR ALL USERS: All users of the PC use the same settings. Windows Administrator rights are required to change the local settings. (%PROGRAMDATA%\AVT\MAGIC THipPro LITE)
  - STORE SETTINGS IN CUSTOM PATH: The settings are saved in an adjustable folder path. The required user rights are determined by the file's properties. The path is saved in the settings.ini file in the installation directory.
- STORE SETTINGS ENCRYPTED: Enable to encrypt the content of the local settings file.

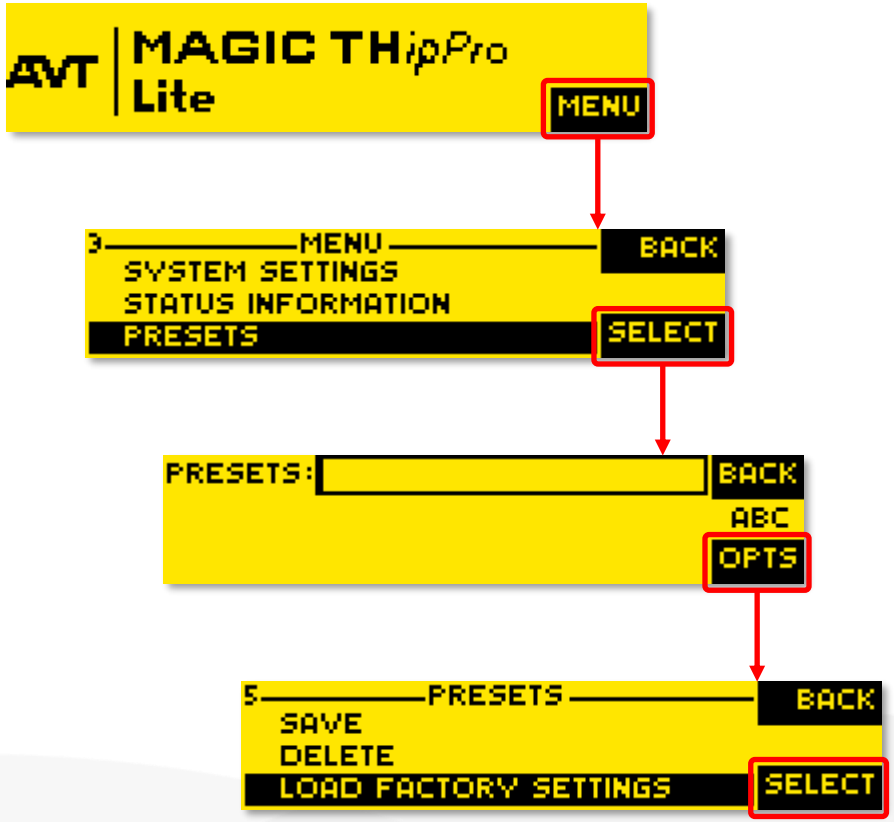
Settings Location (2)

MAGIC THipPro Lite

Setting Factory Settings

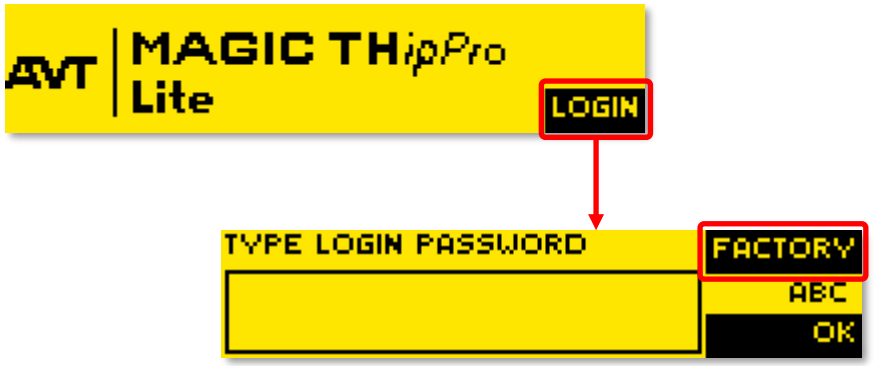
info@avt-nbg.de
www.avt-nbg.de

- The MAGIC THipPro Lite can be reset to factory settings via Front Display.
- The configuration of the device is reset.
- All files stored on the device are preserved.
- The configurations of all clients are preserved.
- If there is no password configured, the device can be reset via front display as shown on the right.



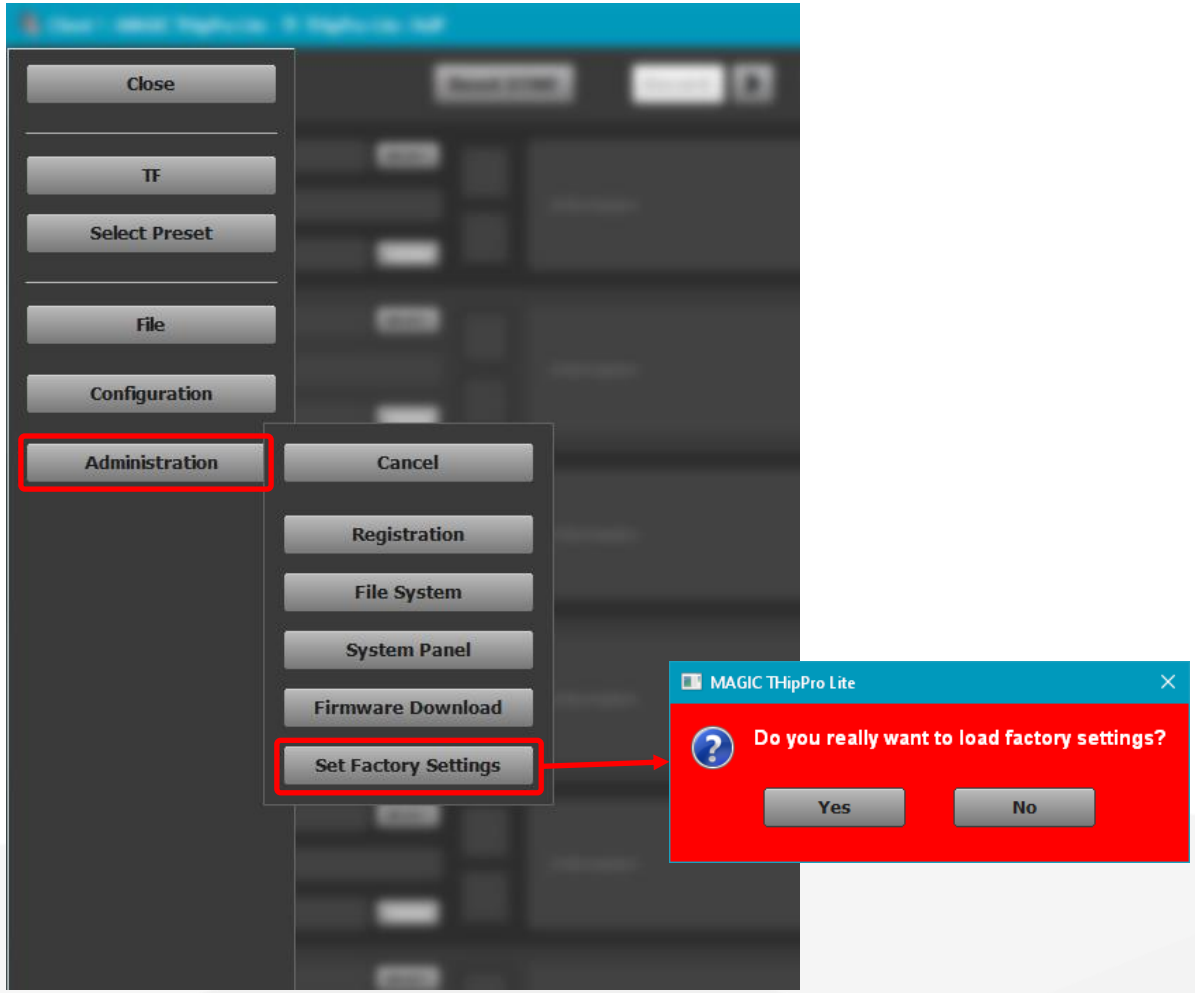
Set Factory Settings (1)

- If there is a password configured but the password is not known, the device can only be reset via front display as shown on the right.



Set Factory Settings (2)

- The MAGIC THipPro Lite can also be reset to factory settings via the PC software.
- Go to MENU – ADMINISTRATION – SET FACTORY SETTINGS.



Set Factory Settings (3)

MAGIC THipPro Lite

Maintenance

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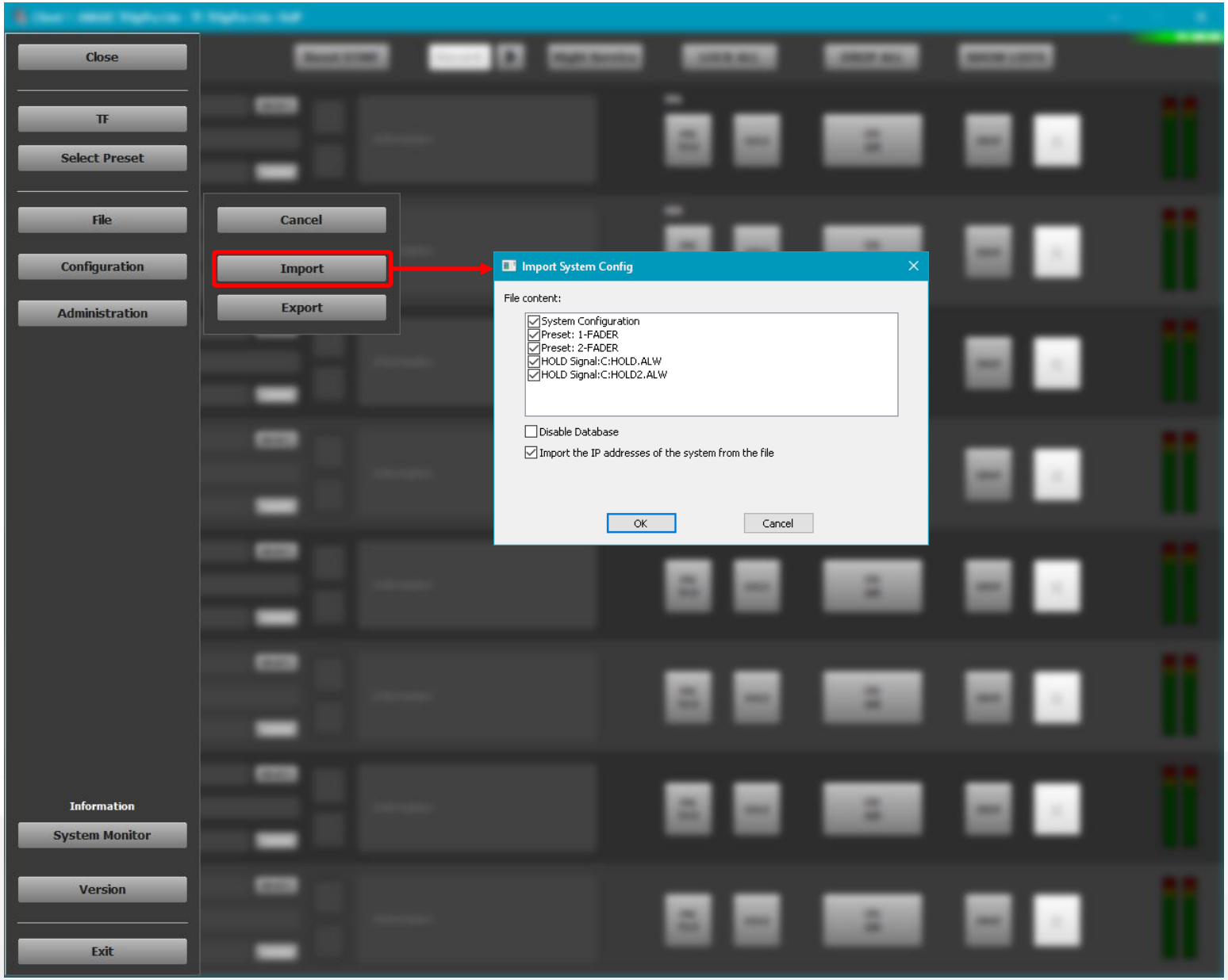
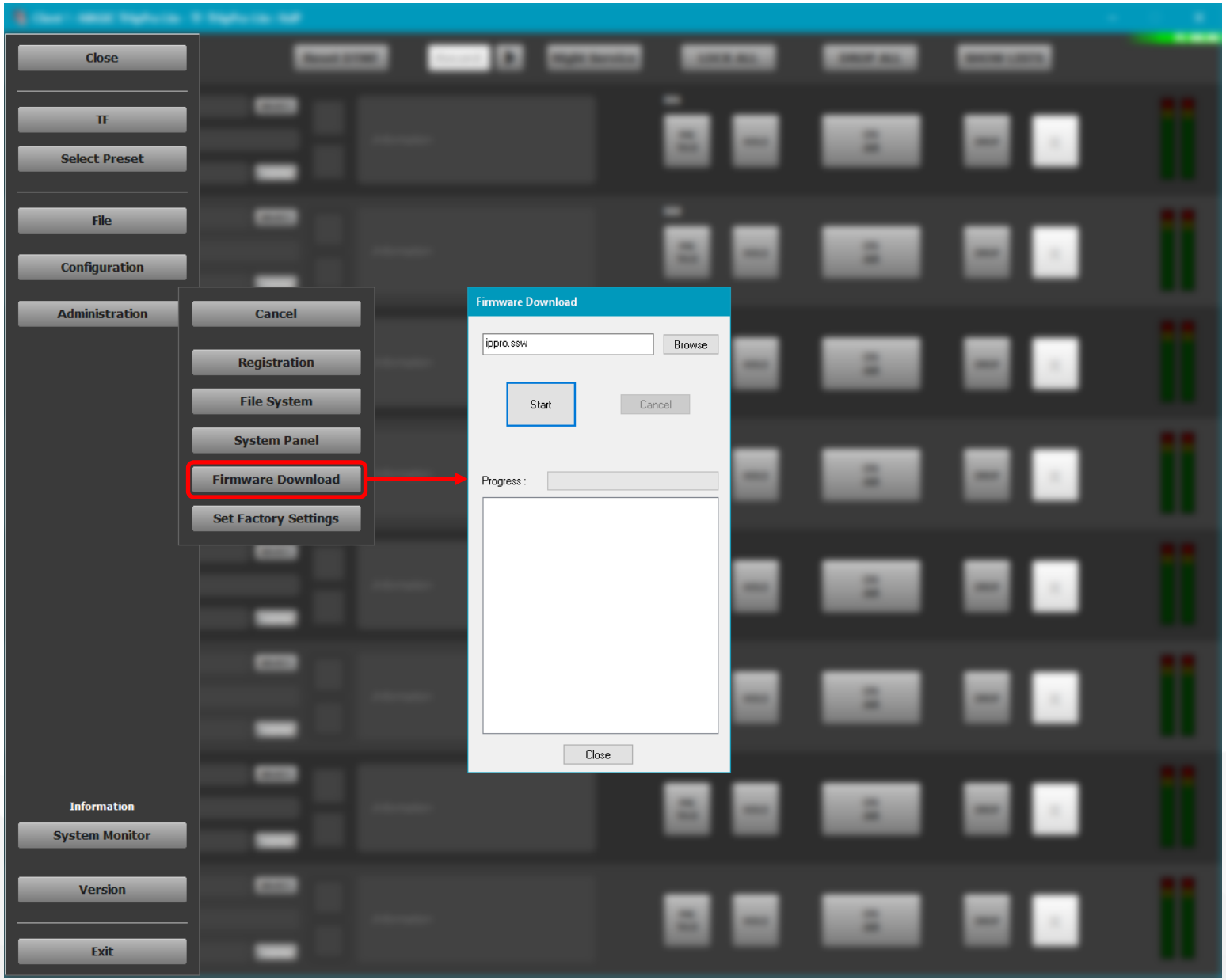


Backup / Restore (1)

- The system configuration can be saved to a PC via MENU > FILE > SYSTEM SETTINGS > EXPORT
- The backup file contains:
  - The current configuration of the MAGIC THipPro Lite
  - Presets
  - Recorded Hold signals
- To restore a configuration, open MENU > FILE > SYSTEM SETTINGS > IMPORT.
  - After selecting the backup file, you may define which parts of the backup shall be restored.
  - DISABLE DATABASE: The database settings are restored but access to the database is disabled in the configuration.
    - This makes sense if the configured database settings do not fit for a new system because of e.g. a different SQL Server.
- IMPORT THE IP ADDRESSES OF THE SYSTEM FROM THE FILE: Only available when restoring changes the IP Addresses of the MAGIC THipPro Lite. Enable if you like to restore the IP Addresses from the backup.
  - After the backup was restored the PC software might lose connection to the MAGIC THipPro Lite. Enter the new IP address of the MAGIC THipPro Lite in the PC software under MENU > CONTROL INTERFACE.

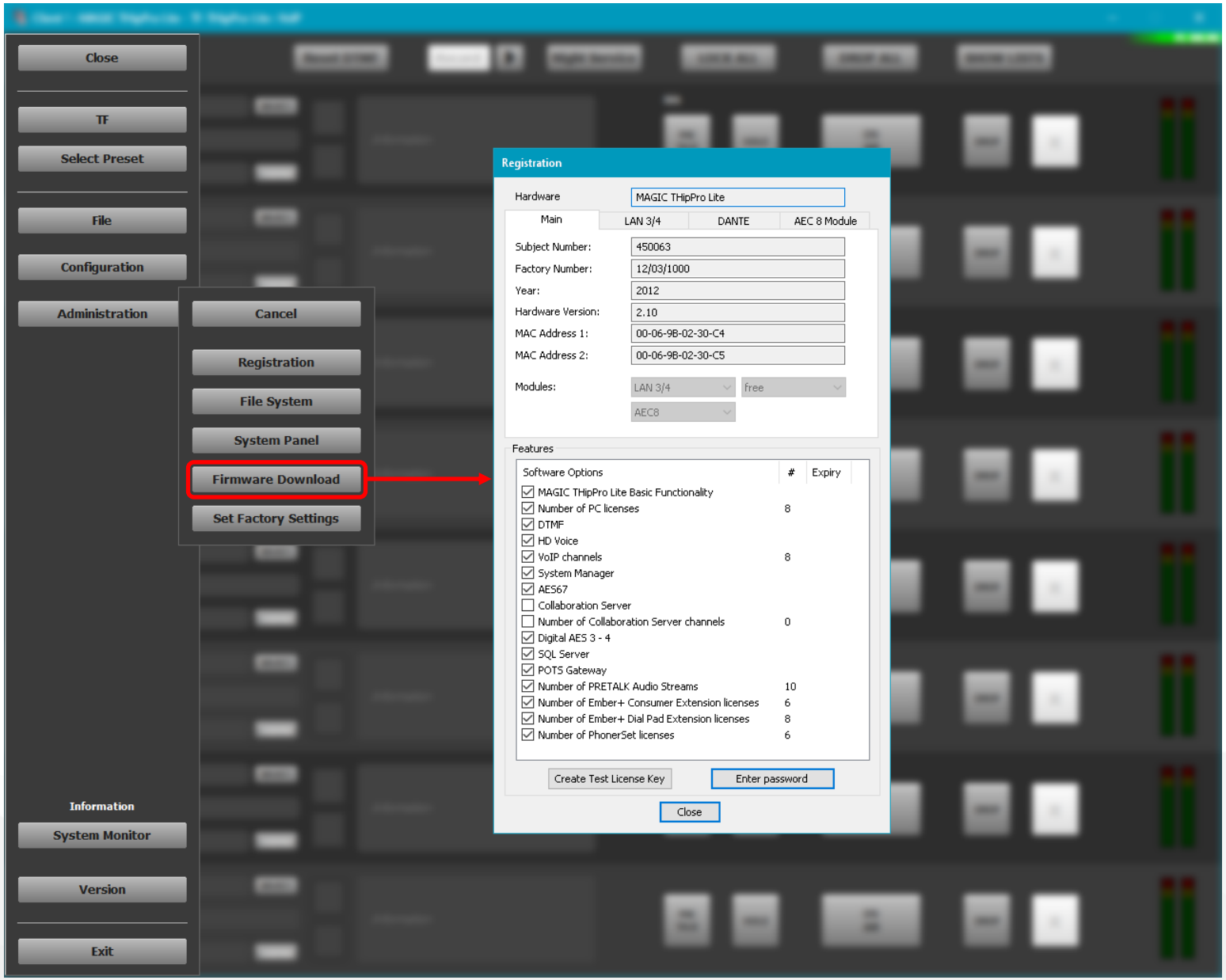
Backup / Restore (2)



Update and Firmware Download (1)

- Find updates to the MAGIC THipPro Lite software on our website avt-nbg.de in the DOWNLOADS section under SOFTWARE.
- A new release includes a new version of the THipPro Lite PC software as well as the matching firmware version.
- The firmware file is included in the PC software downloads.
- Update the system by installing the PC software on one client.
- After starting the new version you will be prompted to update the firmware.
  - Confirm and update the firmware.
  - When the update is finished, the unit will restart.
- You may also update the firmware manually via MENU → ADMINISTRATION → FIRMWARE DOWNLOAD.
  - The firmware file included in the PC software is automatically loaded.
  - Click on BROWSE if you are advised to load a different firmware by AVT support.
- When the THipPro Lite has restarted, install the new PC software on all clients connected to the system.

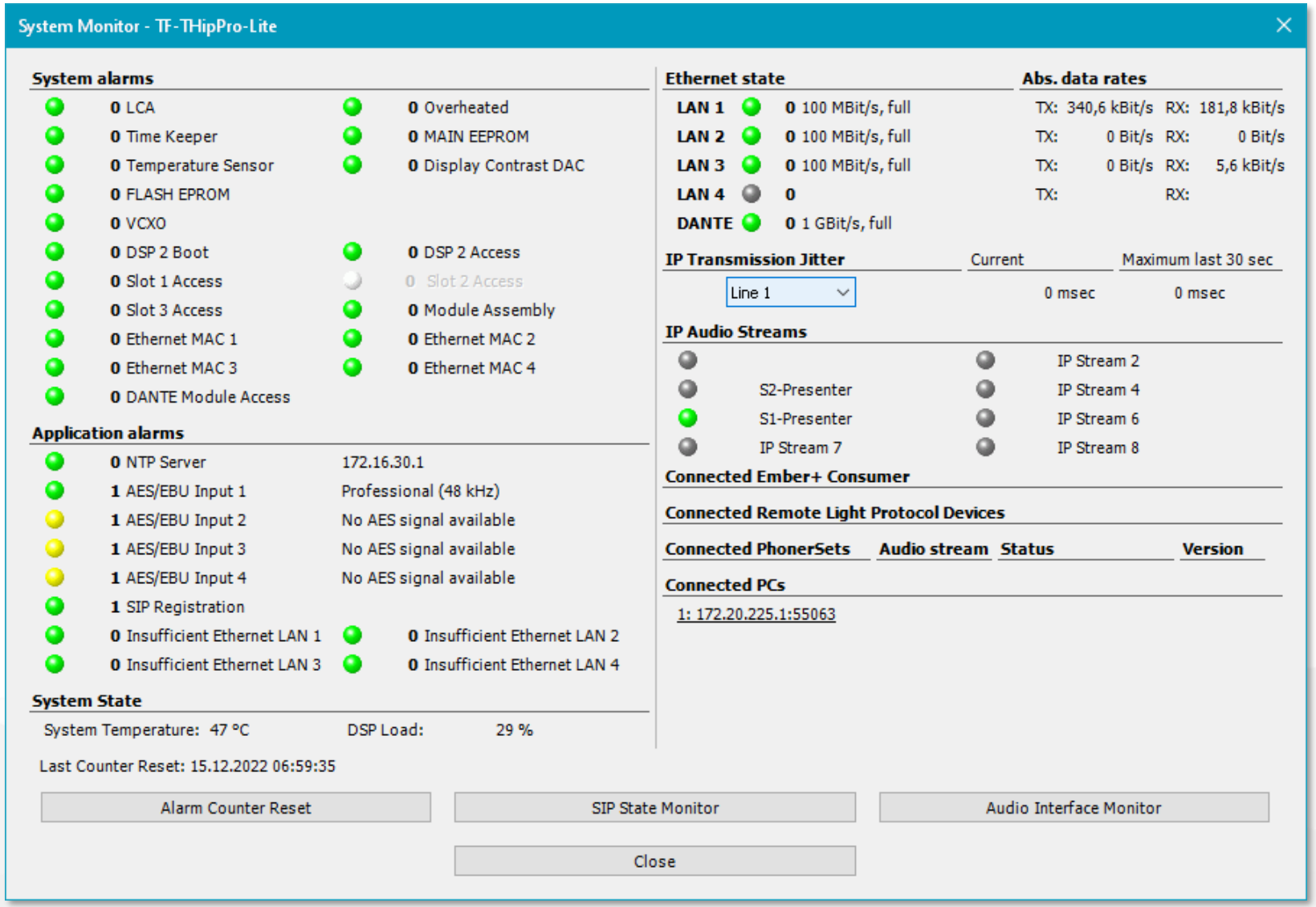
Update and Firmware Download (2)



Registration (1)

- Open ADMINISTRATION → REGISTRATION to check which SOFTWARE options are available in your system.
- ENTER PASSWORD: Adding new licences is done by entering a licence password.
- Contact us if you like to purchase a licence.
  - Attach the FACTORY NUMBER of your unit which is displayed in the REGISTRATION window.
- CREATE TEST LICENCE KEY: If you like to test a feature before buying it, create a test licence key and send it to us along with the factory number of the unit.
  - The test licence will work for a limited time.
  - The timer only counts when the unit is running.
  - The test licence enables all available features.

Registration (2)



System Monitor (1)

- Open MENU – SYSTEM MONITOR to get an overview of the system status.
- KEEP WINDOW ON TOP: Activate to keep the windows always on top of the screen.
- The status is displayed as text as well as LEDs:
  - 🔴 : Alarm is active. There is an error.
  - 🟠 : Alarm is active but not relevant for the current configuration.
  - 🟢 : Status is OK.
- Find alarm counters next to the LEDs which indicate how often the alarm occurred since the Alarm Counter was reset.
- The information is organised in sections:
  - SYSTEM ALARMS: These alarms show the status of the MAGIC THipPro Lite hardware.
  - APPLICATION ALARMS: These alarms show the status of the basic functionality of the MAGIC THipPro Lite:
    - NTP Server: Shows whether the unit is connected to an NTP server or not. If the unit is connected, the IP address of the NTP server used is displayed.
    - AES/EBU Input: The system can detect if there is a valid digital audio signal at the AES inputs. Find more information on the alarm in the right column.
    - AES67 RX STREAM: The built-in AES67 software module cannot receive all configured streams. The status of the DANTE module is not included here.
    - SIP REGISTRATION: At least one of the VoIP lines couldn't register with the SIP server.
    - INSUFFICIENT ETHERNET LAN X: The specified LAN interface could not connect to the switch with 100 Mbit/s, full duplex.
    - DHD AUDIO MATRIX: The MAGIC THipPro Lite couldn't connect to a configured DHD core.
    - EMBER+ CONSUMER: The MAGIC THipPro Lite couldn't connect to a configured Ember+ Provider.

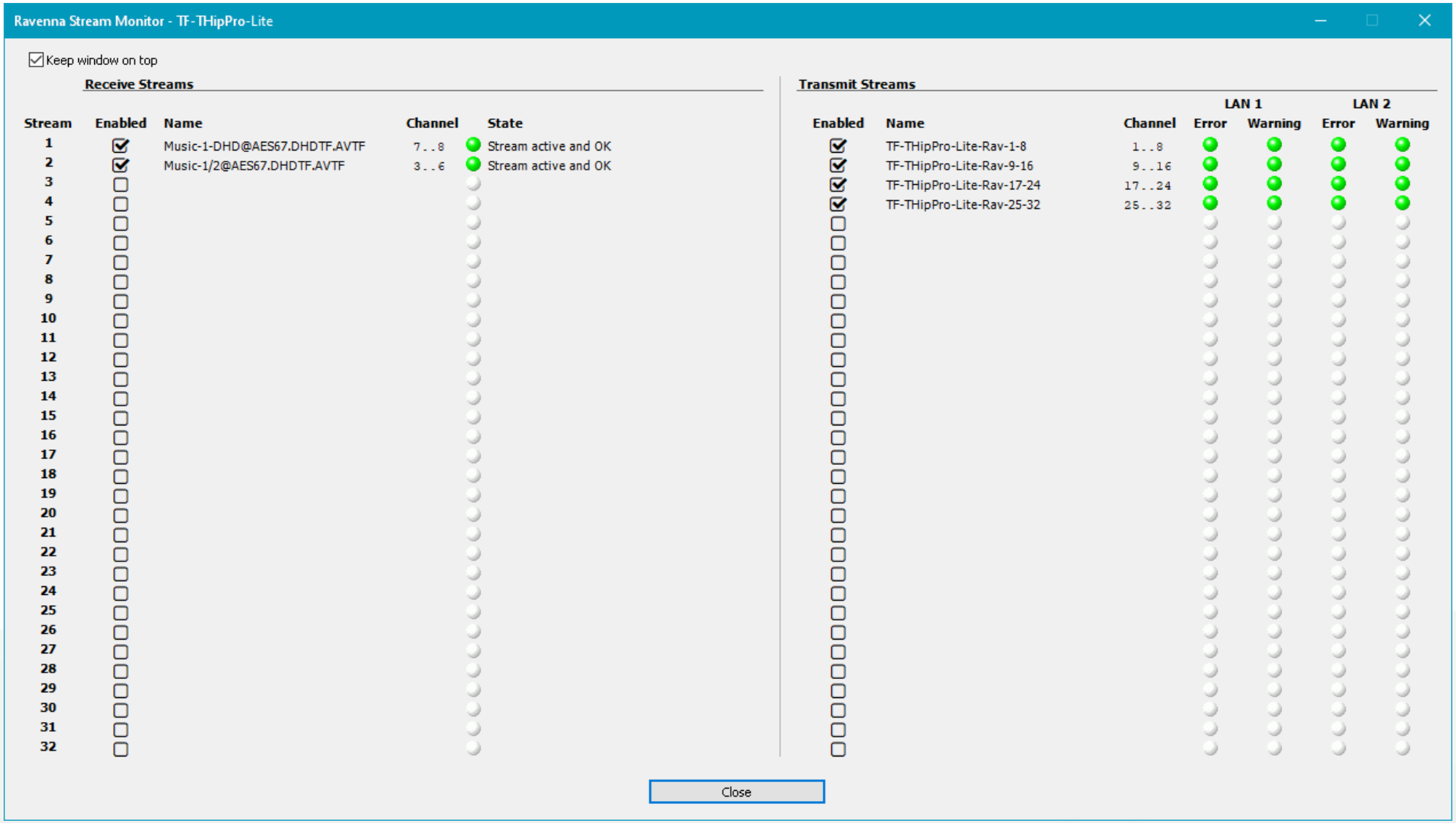
System Monitor (2)

- SYSTEM STATE: Displays the general system health:
  - SYSTEM TEMPERATURE: Displays the temperature on the main board in °C. It is recommended to keep the temperature below 50°C through suitable cooling. The MAGIC THipPro Lite will raise the TEMPERATURE ALARM when 57 °C are reached. A higher temperature can lead to an undefined operation of the device.
  - DSP LOAD: Displays an estimate of the main DSP utilisation.
- ETHERNET STATE: Displays information on each LAN interface of the MAGIC THipPro Lite:
  - LED: Displays whether the physical connection to the network could be established.
  - SPEED: Displays speed and duplex mode of the network connection. (100MBit/s, full is required)
  - TX/RX: Gross data rates of the interface in send and receive direction. The MAGIC THipPro Lite can handle up to 25 MBit/s in RX direction. If the data rate is higher, check for broadcast or multicast traffic that is reaching the THipPro unintentionally.
  - DANTE: Displays link state, speed and duplex mode of the optional DANTE module.
  - RAV: Displays link state, speed and duplex mode of the optional DANTE module.
- IP TRANSMISSION JITTER: Displays the jitter statistics of a selected VoIP audio stream.
  - LINE: Select a telephone line to monitor it.
  - CURRENT: Displays the current jitter value.
  - MAX LAST 60 SECONDS: Shows the highest jitter value which occurred during the last 60 seconds.
- AES67 RX STREAMS: Displays the status of the built-in AES67 software module.
  - STREAM NAME
  - PACKET LOSS: Number of audio packets lost in the received streams.
  - PTP STATE: Precision Time Protocol. The MAGIC THipPro Lite can only work as SLAVE.
  - PTP MASTER: IP address of the PTP master in the audio network.
  - PATH DELAY: Current delay to the PTP master.

System Monitor (3)

- RAVENNA STATE: Displays the state of the optional Ravenna module.
  - AUDIO ENGINE: Internal state of the Ravenna module for RX and TX. Refer to the Ravenna web interface for more information.
  - STREAMS: State of the configured Rx and Tx streams. Refer to the Ravenna web interface or press SHOW STREAMS for more information.
  - PTP STATE: State of the audio clocks of the Ravenna module. Refer to the Ravenna web interface for more information.
  - SHOW STREAMS: Shows an overview of the configured streams and their status.
- IP AUDIO STREAMS: Displays the status of the optional Pretalk Streams.
  - LED: Displays whether the MAGIC THipPro Lite receives a pretalk stream from a PC software client.
  - NAME: Name of the PC software client to which the stream is currently assigned.
- CONNECTED EMBER+ CONSUMER: Shows which Ember+ Consumers are connected to the MAGIC THipPro Lite's Ember+ Provider module.
- DHD CORE CONNECTIONS: Show the status of the connections to the configured DHD cores.
- CONNECTED REMOTE LIGHT PROTOCOL DEVICES: Shows the connected devices which are using the remote light protocol.
- CONNECTED PHONERSETS: Shows the status of connected PhonerSet phones:
  - IP ADDRESS of the PhonerSet.
  - AUDIO STREAM: Status of the audio stream for pretalk.
  - WORKPLACE: The workplace configured in the PhonerSet app.
  - VERSION: Version number of the PhonerSet app installed on the telephone.
- CONNECTED PCS: Displays the PC clients connected to the MAGIC THipPro Lite.
  - NUMBER: Internal port used to connect the PC client.
  - NAME: Client alias.
  - TYPE / PORT
    - HYM: MAGIC System Manager.
    - MTC: Temporary access. The PC is not included in one of the CLIENTS / SECURITY lists. The telephone line control is disabled.
    - PORT NUMBER: Type not defined. The PC is not included in one of the CLIENTS / SECURITY lists. The telephone line control is disabled.

System Monitor (4)

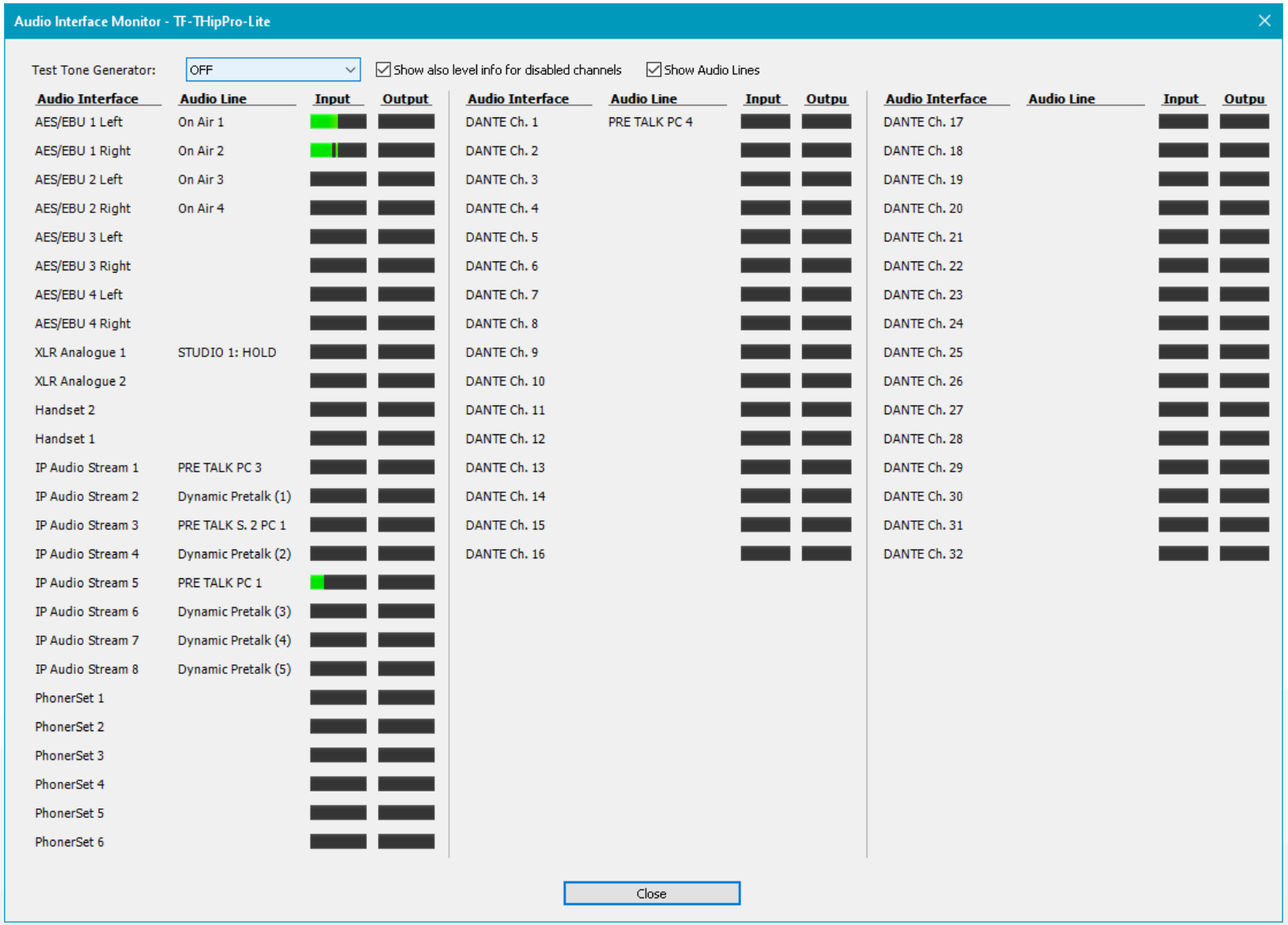


Ravenna Streams (1)

- Open MENU – SYSTEM MONITOR – RAVENNA STATE > SHOW STREAMS to get an overview of the configured Ravenna streams.
- KEEP WINDOW ON TOP: Activate to keep the windows always on top of the screen.
- STREAM: The stream number as displayed in the Ravenna web interface.
- RECEIVE STREAMS: Shows the configured Ravenna input streams.
  - ENABLED: Shows whether the input stream is activated in the Ravenna web interface.
  - NAME: The name of the Ravenna stream.
  - CHANNEL: Shows which audio channels the Ravenna module uses to transmit the audio signal to the MAGIC THipPro Lite base board.
  - STATE: Shows whether the stream is currently being received.

- TRANSMIT STREAMS
  - ENABLED: Shows whether the output stream is activated in the Ravenna web interface.
  - NAME: The name of the Ravenna stream.
  - CHANNEL: Shows which Ravenna Tx channels of the MAGIC THipPro Lite are included in that stream.
  - LAN 1 /2, ERROR, WARNING: Shows if there are any problems on any of the LAN interfaces of the Ravenna module. Get more information in the Ravenna web interface.

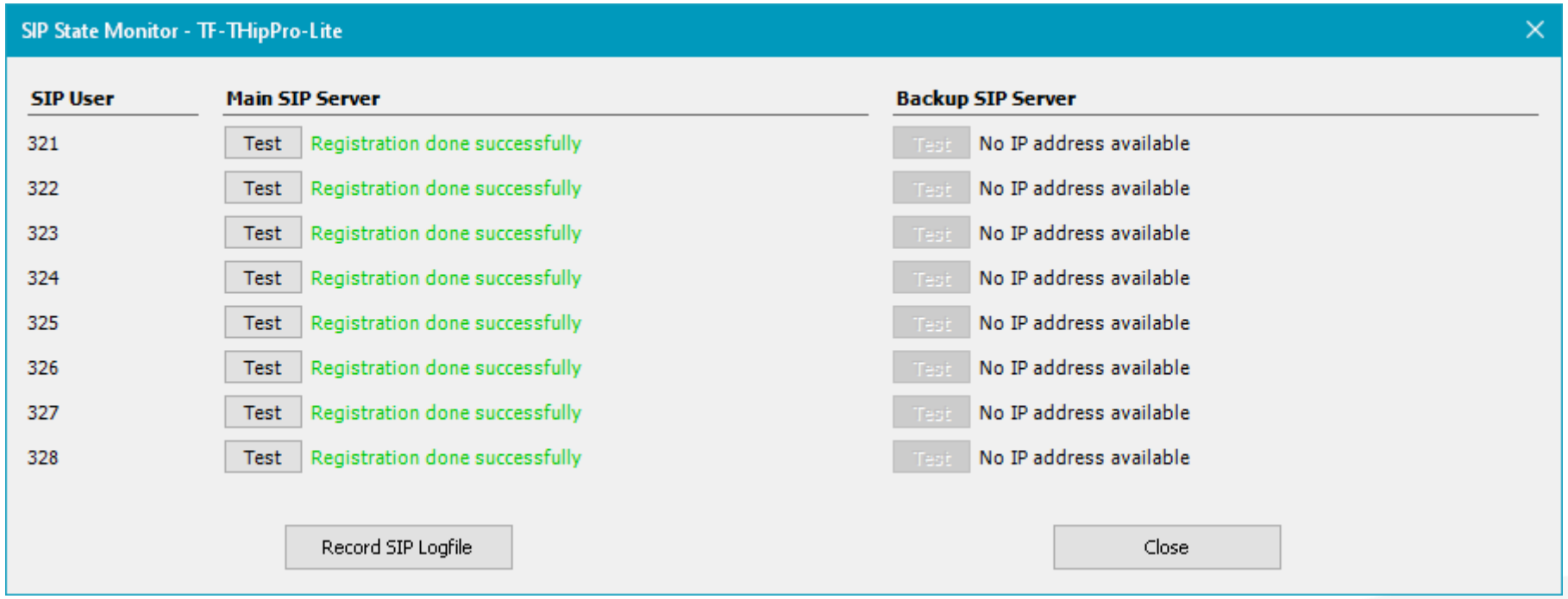
Ravenna Streams (2)



Audio Interface Monitor (1)

- Open MENU – SYSTEM MONITOR – AUDIO INTERFACE MONITOR to get an overview of the audio interfaces.
- KEEP WINDOW ON TOP: Activate to keep the windows always on top of the screen.
- TEST TONE GENERATOR: Select an audio interface from the drop-down box to generate a sine test signal on the respective audio output.
- SHOW AUDIO LINES: Enable to also show the audio lines which are assigned to the audio interfaces.
- Each audio channel of the device is displayed:
  - AUDIO INTERFACE: Name of the audio channel.
    - AES/EBU: Digital audio interfaces at the back of the device.
    - XLR ANALOGUE: Analogue audio interfaces at the back of the device.
    - HANDSET: Handset audio interfaces at the front of the device.
    - IP AUDIO STREAM: Pretalk streams over IP.
    - PHONERSET: PhonerSet audio streams over IP.
    - AES67: AES67 audio channels of the AES67 software module.
    - DANTE: Audio channels of the Dante hardware module.
    - RAVENNA: Audio channels of the Ravenna hardware module.
  - INPUT: Audio level of the signal fed to the device.
  - OUTPUT: Audio level of the signal Audio level of the signal emitted by the device.

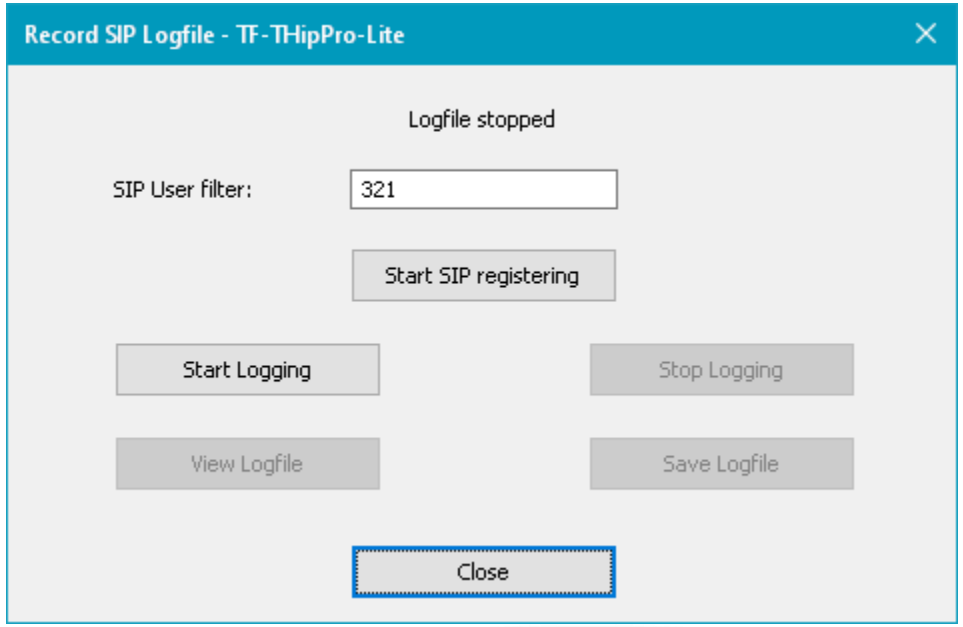
Audio Interface Monitor (2)



SIP State Monitor (1)

- Open MENU – SYSTEM MONITOR – LINE STATE MONITOR to get an overview of the VoIP telephone lines.
- KEEP WINDOW ON TOP: Activate to keep the windows always on top of the screen.
- Each telephone line is displayed in a line of the screen:
  - SIP USER: SIP user name as configured.
  - MAIN SIP SERVER: State of registration at the main SIP server.
    - TEST: Click to start registration. The result is displayed next to the button. The test may take up to 2 minutes.
    - STATE: State of the registration process in plain text.
  - BACKUP SIP SERVER: State of registration at the backup SIP server.
    - TEST: Click to start registration. The result is displayed next to the button. The test may take up to 2 minutes.
    - STATE: State of the registration process in plain text.

SIP State Monitor (2)



Record SIP Logfile (1)

- Open MENU – SYSTEM MONITOR – SIP STATE MONITOR – RECORD SIP LOGFILE to save the SIP communication of the MAGIC THipPro Lite to a file.
- KEEP WINDOW ON TOP: Activate to keep the windows always on top of the screen.
- The logfile is stored in the internal flash memory of the device. Since the memory space is limited, the logging should not be active for more than one hour.
- SIP USER FILTER: Optionally, enter a SIP user name to filter the messages written to the logfile.
- START LOGGING: Click to start recording the SIP messages.
- START SIP REGISTERING: This can be used if you like to record the SIP registration process. Click while the logging is active.
- STOP LOGGING: Click to stop recording the SIP messages.
- VIEW LOGFILE: Open the logfile in a text editor on the PC. Available once the logging is stopped.
- SAVE LOGFILE: Click to save the logfile on the PC. Available once the logging is stopped.

Record SIP Logfile (2)

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